Tools for Researchers
Microsoft Research & the Scholarly Information Ecosystem

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Microsoft External Research
Microsoft Corporation
Microsoft External Research

- Organization within Microsoft Research that engages in strong **partnerships** with academia, industry and government to advance computer science, education, and research in fields that rely heavily upon advanced computing
- Initiatives that focus on the **research process** and its role in the innovation ecosystem, including support for open access, open tools, open technology, and interoperability
- Developers of **advanced technologies** and services to support every stage of the research process

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Mission

**Optimize and extend** Microsoft software to meet the specific needs of the academic community

**Our approach:**

*Conduct applied projects to enhance academic productivity by evolving Microsoft’s scholarly communication offerings*

Microsoft External Research is uniquely positioned to drive this initiative across Microsoft.
Open Science

Open Access
Open Source
Open Data

“In order to help catalyze and facilitate the growth of advanced CI, a critical component is the adoption of open access policy for data, publications and software.”

NSF Advisory Committee on Cyberinfrastructure (ACCI)

Microsoft Interoperability Principles
- Open Connections to Microsoft Products
- Support for Standards
- Data Portability
- Open Engagement

http://www.microsoft.com/interop/

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http://msdn.microsoft.com/en-us/academic/

https://www.dreamspark.com/

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Scholarly Communications: Projects Overview

Current or Completed Projects:

- **Cornell** – arXiv.org + Word 2007 (and repository interoperability via SWORD)
- **MIT / Broad Institute** – Authoring (Word 2007) + data for research reproducibility
- **MSR** – CMT++ interoperability with data + metadata transfer/exchange (conference management tool enhancements)
- **LiveLabs** – eJournal publishing online service (community publishing tool)
- **UC San Diego / PLoS** – Semantic mark-up of scholarly articles (+ submission)
- **Chem4Word** with Office & Cambridge University – Create add-in to Word 2007 to facilitate drawing of chemical compounds and equations
- **Johns Hopkins University** – Digital Archive for Astronomy/Astrophysics data (storage, preservation and access)
- **Planets Project / EU** (with MSR – Cambridge) OpenXML and file format preservation + interoperability
- **eChemistry Project** (Cornell, Penn State, Indiana, Cambridge, Southampton) – ORE exemplar: access to compound chemical info objects (cross-repository access to open chemistry data)
- **British Library** – Researcher Information Centre (RIC) online workflow tool for scientists and researchers
- **Creative Commons Add-in for Office 2007** – evolving the Word 2003 effort
- **University of Southampton** (UK) – Port ePrints Repository Software for installation on the Windows platform
- **University of Manchester** / “MyExperiment” Project – social networking for scientists
- **ORE Acceleration Project** (OAI – Object Reuse & Exchange) – Alpha spec development
- **UK National Archives** – Virtual PC / Emulation of legacy systems to facilitate preservation
- **National Library of Medicine / NCBI** – “PubMed Int’l” UK version of PubMed + NLM DTD
- **DRIVER 2 (EU)** – Infrastructure integration of across a network of European research repositories

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Tools for Researchers

Alex D. Wade
Project Trident: Scientific Workflow Workbench

Author, Execute and Monitor Workflows
View data products, performance metrics, and provenance data
Compose and modify workflows via drag & drop canvas
Execute and embed workflow information and outputs during document authoring

Version 1 available now:
http://research.microsoft.com/collaboration/tools/trident.aspx

Research Information Centre (RIC)

Personal site for each researcher and project site for each project
Collaborative environment for researchers
Federated search, co-search, annotations, tags, ratings, etc.
Social networking, real-time communication, blogs, wikis
Project site navigation and tools based on project lifecycle

Beta 2 available now:
http://research.microsoft.com/ric/
The project template controls the contents and structure of the new project site and the project portal, including:

- the pages that make up the site,
- where the page links are placed on the portals navigation pane and the names of the various pages.
**RIC Framework – Project Site Administration**

Project maintenance page: allows the RIC Framework administrator to create, export and delete projects.

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**eJournal Editorial Workbench**

Module for the Research Information Centre

Targeted at scholarly societies and small to medium-sized publishers

Editorial and peer review management tool

Simplifies self-publishing of workshop/conference proceedings and small journals

Support and tracks online collaboration between authors

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[http://research.microsoft.com/ejournal/](http://research.microsoft.com/ejournal/)
Creative Commons Add-in for Office 2007

**Intent:** Insert Creative Commons licenses from within Office 2007

**Services:** Integrates with Creative Commons Web API to create new licenses

**Relationships:** license information stored as RDF XML within the document OOXML


Ontology Add-in for Word 2007

**Intent:** Term recognition & disambiguation

**Services:** Ontology download web service

**Relationships:** Ontology browser

Source code and binary: [http://research.microsoft.com/ontology/](http://research.microsoft.com/ontology/)
Article Authoring Add-in for Word 2007

Services: repository deposit via SWORD

Structure: Read, convert, and author NLM XML documents

Relationships: ORE Resource Map creation

Structure: Client-side XML validation

Relationships: Citation lookup and reference management

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(Binary (version 2.0): http://research.microsoft.com/authoring/)
Chem4Word - Chemistry Drawing in Word

Intent: Recognizes chemical dictionary and ontology terms

Data: Semantics stored in Chemical Markup Language

Intelligence: Verifies validity of authored chemistry

Available soon:
http://research.microsoft.com/chem4word/

GenePattern Reproducible Research Add-in

Services: Connects to GenePattern database

Relationships: Inline graphics are synchronized to dataset

Data: Resulting data (and provenance) stored within Word document

Source code and binary:
http://GenepatternWordAddin.codeplex.com
Zentity – a Research Output Repository Platform

Quick
- Easy to install
- ‘Scholarly Works’ data model
  - Authors, Papers, Data, Videos, Code, Lectures, Books, etc.
- Default Web UI

Interoperable
- BibTeX Import
- RSS/Atom Syndication
- METS support
- OAI-PMH Provider
- OAI-ORE
- Simple Search API
- Atom Publishing Protocol
- SWORD

Extensible
- UI Toolkit
- Intuitive programming experience
- Extensible Data Model (entities, relationships)
- RDFs for new data models

Free & Open
- Freely available
- Based on open standards
- SQL Server and Developer tools available via Dreamspark

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How to engage with Microsoft External Research

• Tell us more about your projects, your workflows, your issues. We’re always in “requirements gathering mode”
  – Email us directly at scholar@microsoft.com with questions and ideas
  – Especially if you are already utilizing Microsoft technologies

• Download our add-ins and try them, and then give us feedback!
  – Let us know if we can facilitate a connection with the appropriate product group(s)

• Follow announcements via our RSS feed or via our Facebook group

Stop by our booth for demos

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Thank you

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URL – http://www.microsoft.com/scholarlycomm/
Microsoft Translator

Query-time translation

Microsoft Translator

Embeddable widget

Bilingual side-by-side viewer

http://www.microsofttranslator.com/AddIn.aspx

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http://www.microsofttranslator.com/dev/ajax/

Bilingual Viewer

Bing Translator


Asdas

Microsoft Translator

Translation provided by Microsoft Translator

Asdas
**Discovery & Visualization Tools**

- **NodeXL**
  - Network visualization & exploration for Excel
  - [http://nodexl.codeplex.com](http://nodexl.codeplex.com)

- **Gazer**
  - Silverlight Control for graphical network browsing

- **FacetLens**
  - WPF control for faceted browsing
  - [http://research.microsoft.com/cue/facetlens/](http://research.microsoft.com/cue/facetlens/)

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**Document Conversion Service**

- Convert to and from Word, ODF, Word Perfect, RichText, and UOF
- View documents in various formats
- Compare original and converted documents

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Conference Management Tool (CMT)
Service for Academic Conference Management
http://cmt.research.microsoft.com

- Web service for managing academic conference workflows
  - A no-cost hosted service sponsored by MSR since 1999

Includes features/functionality:
- Peer-reviewing of academic conferences/workshops
- Conference capture and online publishing
- Interoperability with other scholarly publication services (SWORD compliant)
  - arXiv.org, eJournal, etc.

Supports conference workflow

Questions?

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