Semantic Research Profile for showcasing Scholarly Communication using VIVO

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Presentation Overview

- How are research activities disseminated or shared?
- The Challenges
- Expectation from the stakeholders
- What is Profile Management System?
- VIVO
- Features & Functionalities
- Data Sources and work Flow
- Who is using VIVO?
- Ingest Process
- Use case
- Demo
How are research activities disseminated and shared?

**Organisation Level**
- Institutional repositories
- Faculty profile
- Preprint archives
- Data repository
- Open Access Journal System
- Project Management System

**National Level**
- National level expert database
- Fellow profile at Professional associations and societies
- National level repositories
- Country specific digital libraries
- Union databases

**Publisher and Service Providers**
- Journal articles at Publisher’s website (open and commercial)
- Open and commercial data repositories
- Academic Identity registry
- Citation databases
The Challenge

Are the research data / activities of the faculty or organisations discoverable or interoperable?

How many institutes have standard Profile Management System?

Hard to find the right people within and across institution for collaborative research.

Many potential faculty, scholars not aware about research happening within organization.

Each organisation have their own website for profile management, research information.

✔ Unique challenges in identifying the scientific expertise
  ✔ Publications don’t show all expertise;
  ✔ Hard to find others with similar interests; and
  ✔ No common forum within organization or across organization to communicate emerging areas of interest.
Expectation from the stakeholders

As a Scholar

- Locate mentors, advisors, & collaborators;
- Locate facilities, events, and fellowship;
- Find courses in an area of interest; and
- Find research focus of organisation or faculty.

As a Faculty / Scientist

- Ensure their work is discoverable and connected;
- Minimize the time to spend repetitive data;
- Data should be inter-operable with another platform;
- Showcase their contributions to the peers group and funding agency;
- Increasing funding opportunity for research and greater exposure to the international community.

As a Administrator

- Find out the research progress;
- Areas of expertise of faculty, departments and schools;
- Build research reports, carry out performance assessments, research impact analysis;
- Improve faculty collaboration within or across departments and institutions; and
- Grant Information Management
What is Profile Management System?

The Profile Management System is a web-based tool to consolidate the scholarly communication activities of the faculty / Scientist.

The system collect the scholarly data from various sources such as human resource development, course management, grant and award management system, open and proprietary citation database, institutional repositories, data repositories, etc.;

The system facilitate discovery of connection across research partners among the similarly interested group to address the research challenges; and

The Profile Management System is a discovery tool to locate an expert based on scholarly communication activities.
Why we need Faculty Research Profile?

- Academic and R&D organizations dispersed geographically and it is very much difficult to know what is the research capability of the various department or organisation;
- Find out all facilities and research carried out within universities or across universities and departments;
- Organisation’s responsibility to inform the academic community about their faculty’s or researcher’s interest, skills, experience, accomplishment, projects and other scholarly activity;
- To increase the funding opportunity for various research project; and
- Research reporting for policy making and funding
Desired functionality of Profile Management System

- Faculty activity reporting
- Structured Publication, scholarly output, data management
- Grants and Award management
- Research Networking and Expert Profiling
- Research Analysis and Reporting
## Profile Management System / Research Information Management System

<table>
<thead>
<tr>
<th>Software</th>
<th>Developed by</th>
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<tr>
<td>Activity Insight</td>
<td>Digital Measures</td>
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<tr>
<td>Symplectic Elements</td>
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<td>Elsevier's Pure (SciVal Experts)</td>
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<tr>
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<tr>
<td>Digital Vita</td>
<td>Center for Dental Informatics - University of Pittsburgh</td>
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<td>Profiles Research Networking Software</td>
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<td>VIVO</td>
<td>Cornell / Duraspace</td>
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VIVO

VIVO is member-supported, open source software and ontology for representing scholarship. VIVO supports recording, editing, searching, browsing and visualizing scholarly activity. VIVO encourages research discovery, expert finding, network analysis and assessment of research impact. VIVO is easily extended to support additional domains of scholarly activity. Open source software and distributed under the terms of the BSD open source license.
Features

- Profile information can be automatically imported from authoritative institutional data sources as well as from external sources.
- Individuals can log in using institutional authentication procedures to modify their profiles.
- Information like research interests, publications, presentations, etc. can be easily customized on the site.
- Identify current work and find an expert with precision and reliability.
- Simplify reporting tasks and provide visualizations such as co-author networks and the map of science network.
- Adopted international standard: Consortia Advancing Standards in Research Administration Information (CASRAI)
- Standard vocabulary such as AGROVOC, GEMET, LCSH, UMLS to describe the area of expertise
### List of Ontology used in VIVO

<table>
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<tr>
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<th>Ontology</th>
<th>Namespace</th>
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Who is using VIVO?
Who is using VIVO?
Welcome to CU Experts

CU Experts is a research and expertise discovery tool that enables collaboration among researchers across all disciplines.

Browse or search information on CU Boulder people and research.

https://experts.colorado.edu
Welcome to Researchers@Brown

Researchers@Brown brings together, in one site, publicly available information on the people, departments, and activities that collectively make up research and scholarship in all disciplines at Brown University.

For FACULTY:
- You may have harvested publications pending approval. Click "Manage your profile" -> "Publications" -> "Manage publications".
- Check out the new "Geographic Research Area" section which uses a standard set of geographic terms.
- Coming soon! Optional network visualizations

For DEVELOPERS:
- The R@B team has developed a JSON web service that makes it easy to use data from Researchers@Brown in other websites.

Please provide feedback or request help by contacting researchers@brown.edu. Visit our Help pages for further information. https://vivo.brown.edu
Curtis L. Cole | Associate Professor of Clinical Medicine

- Associate Professor of Clinical Medicine, Joan and Sanford I. Weill Department of Medicine, Weill Cornell Medical College 2006 -

- Associate Professor of Clinical Healthcare Policy and Research, Healthcare Policy and Research, Weill Cornell Medical College 2014 -

- Associate Professor of Clinical Public Health, Public Health, Weill Cornell Medical College 2006 - 2013

- Assistant Professor of Medicine, Joan and Sanford I. Weill Department of Medicine, Weill Cornell Medical College 2000 - 2006

- Assistant Professor of Public Health, Public Health, Weill Cornell Medical College 2004 - 2006

- Instructor in Medicine, Joan and Sanford I. Weill Department of Medicine, Weill Cornell Medical College 1997 - 2000

Dr. Curtis L. Cole is a graduate of Bowdoin College and received his medical degree from Cornell University Medical College (currently known as Weill Cornell Medical College) in 1994. He completed his Internal Medicine Residency program at The New York Hospital (currently known as NewYork-Presbyterian Hospital - Weill Cornell Campus) in 1997. After residency Dr. Cole continued at New York Presbyterian Hospital - Weill Cornell as Clinical Instructor of Medicine and was tenured in 1999. Dr. Cole is the recipient of numerous honors and awards, including the Young Investigator Award from the American Thoracic Society in 2012. He is a member of the editorial boards of several medical journals and has published extensively in peer-reviewed journals and is a regular speaker at national conferences.
Mohan Das, Thangamuthu | Associate Professor

Positions
- Associate Professor, Central University of Tamil Nadu

Research Areas
- Organic Chemistry

Dash, Aditya Prasad | Vice Chancellor

Positions
- Vice Chancellor, Central University of Tamil Nadu, 2016-
- Regional Adviser, World Health Organization South-East Asia Regional Office, 2014-2016
- Additional Director, Centre for Research in Medical Entomology, 2003-2016
- Director, National Institute of Malaria Research, 1995-2003
- Deputy Director, Regional Medical Research Centre, Bhubaneswar, 1993-1998
- Senior Research Fellow, Utkal University, 1974-1978

Research Areas
- Tropical Medicine

selected publications

academic article
Design and synthesis of sugarbenzodiazepines Low molecular weight organogelators, RSC Advances, 6, 2016

Design and synthesis of sugatriazole based uracil appended sugaramine derivativesan application in DNA binding studies, New Journal of Chemistry, 39, 2015


Bistriazolodicyclid mimetics Low molecular weight organogelators, New Journal of Chemistry, 38, 2014

Effect of bi-layer ratio in ZnO/AZO3 multilayers on microstructure and functional properties of ZnO nanocrystals embedded in AZO3 matrix, Applied Physics A, 115, 2014

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academic article
Implication of vector characteristics of Phlebotomus argentipes in the kalaazar elimination programme in the Indian subcontinent, Pathogens and Global Health, 110, 2016

Treatment of visceral leishmaniasis: Options and choice, The Lancet Infectious Diseases, 16, 2016

Control of Aedes aegypti and Ae. albopictus the vectors of dengue and by using pheromone C21 with an insect growth regulator Results of multicentric trials from 200712 in India, Journal of vector borne diseases, 52, 2015


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Before VIVO

After VIVO
Map of Science for Institute

Temporal Graph for faculty
Capability Map

Build a ‘first pass’ capability map by typing in a search term that could be said to represent a broad research capability.

Biology

Cutoff: 10

Search

Search and Expand

Reset

Current search terms

- Chemical Engineering
- Computer Science Software Engineering
- Materials Science Biomaterials
- Biology
Data Ingest Process

01 Data Collected from Various Sources
- IIT Gandhinagar Faculty Profile
- VIDWAN Database, Citation information providers

02 Data Curated & Converted into CSV
- Personal Info, Qualification, affiliation, expertise, Publications, etc

03 Convert CSV to RDF/XML or TTL
- Python Script to convert the CSV data to RDF/XML or TTL

04 Setup VIVO
- Java
- Jenna Framework Semantic
- MySQL and Graph Database
- Apache Tomcat

05 Import RDF/XML and TTL

06 VIVO Profile Management System

07 VIVO Dashboard
- Drupal based tool for research report
Use Case

Profiles of faculty & Scientists @
Group of Institutes / R&D Laboratories

Profiles of Faculty / Scientist @
Organisation

Single Sign on / Semantic CV

Multi-institutional Search

Profiles of Fellow @
National Level
Academic Associations

Single Sign on / Semantic CV

Funding Agencies
THANKS !!!

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