How are research related information shared or disseminated?

✓ HR system
✓ Grant Management System
✓ Institutional repositories
✓ Preprint archives
✓ Publishers Website
✓ Academic Identity registry
✓ Citation databases
✓ Social Media Repository
### The Challenges in the research eco-system

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Example</th>
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<tbody>
<tr>
<td>Research activities of the faculty members or Organizations are not</td>
<td>Publications do not necessarily reflect expertise of individuals and organizations</td>
</tr>
<tr>
<td>discoverable or interoperable in the Institute / National level.</td>
<td></td>
</tr>
<tr>
<td>Publications do not necessarily reflect expertise of individuals and</td>
<td>Hard to find the right experts within and across institutions for collaborative research.</td>
</tr>
<tr>
<td>organizations</td>
<td></td>
</tr>
<tr>
<td>Many faculty members, scholars are not aware about research happening</td>
<td>No common forum within organization or across organizations to communicate emerging areas of interest.</td>
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<tr>
<td>within organization.</td>
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Expectation from the stakeholders

As a Scholar
- Locate mentors, advisors & collaborators;
- Locate facilities, events, and fellowship;
- Find courses in an area of interest.

As a Faculty / Scientist
- Ensure their work is discoverable and connected;
- Showcase their contributions to the peers group;
- Increasing funding opportunity for research and greater exposure to the international community.

As a Research Administrator
- Find out the research progress;
- Build research reports, carry out performance assessments, research impact analysis;
- Improve faculty collaboration within or across departments and institutions; and
- Grant Information Management
- ROI on Research
Real Life Questions

✓ What research has University produced? In the last 10 years?

✓ How many times has University research output been viewed / cited?

✓ Where are University researchers doing their projects?

✓ Who are we doing work with, internationally?

✓ What is the h-index of the faculty member / department / University?
How the research information related queries addressed today?

0.6% of the Higher Education Institution

25% of Degree Awarding Institutions

Other institutes using Google Scholar & Microsoft Academic Search

The legacy approach required lot of sweat
Why we need RIM in the institute level?

Reporting and compliance drive RIM adoption

Importance of Reasons for Pursing RIM Activities (n=222)
Base: Institutions with a live RIM

- Managing annual academic activity reporting: 58% extremely important, 28% important, 9% somewhat important, 1% not important, 3% N/A or not sure
- Supporting institutional compliance: 63% extremely important, 26% important, 12% somewhat important, 1% not important, 1% N/A or not sure
- Supporting institutional research reputation and strategic decision making: 40% extremely important, 42% important, 16% somewhat important, 2% not important, 1% N/A or not sure
- Improving services for researchers: 36% extremely important, 43% important, 16% somewhat important, 2% not important, 4% N/A or not sure
- Supporting expertise discovery: 23% extremely important, 46% important, 20% somewhat important, 7% not important, 4% N/A or not sure
- Recording IR facilities and their use: 11% extremely important, 32% important, 25% somewhat important, 17% not important, 14% N/A or not sure
Solution: Develop an open source research information management system to collect, organise the scholarly communication activities in the institute level and the curated data used for research reporting and decision making.

- The Central University of Punjab, Bathinda and INFLIBNET Centre developed an open source software called "Indian Research Information Network System (IRINS)" under National Mission on Education through ICT;

- At present the IRINS is available as “software as service”;
What is IRINS?

IRINS as Research Information Management System
✓ it captures scholarly communication artifacts such as people who do research and their group (Personal information and affiliation), their research activities (grants / projects), achievements (Honours/awards) and their research output (publications and more)
✓ It could be integrated with existing campus management system such as faculty profile, institutional repository, grant management system, etc
✓ It support data visualization and reporting on organisation research activity and output
✓ It consumes and produces key information to institute’s core research
Birth and Journey of IRINS

- **Born**: 2017
- **Growth**: April 2018
- **Stronger**: September 2018

MHRD interested to develop RIM

**IRINS Prototype & First Instance to Pondicherry University**

- **Project Approved by MHRD to create instance for 150+ Centrally Funded Academic Institutions**

- **Academic Institutions**: IISC, IITM, IITD, CUTN, CUP, PU, etc
- **R&D Organisation**: NAL, NIIST

- **VIDWAN**: 2002- present

- **IRINS**: Born 2017

- **Bigger**: October 2018
Functional use of IRINS

- Institutional Repositories / NDL / Domain Specific Repositories
  Multi-institutional search
- External Research Assessment & Ranking Framework
- Profiles and CV/ Single Sign-on for Projects
- Internal Reports on publication/ citation/ h-index
- Awards and Grants Management
- Annual academic Reviews

IRINS
Key Features and Functionalities

Dashboard

- Manage profiles
- Import profile information
- Generate report

Academic Identity

- Integrated with Academic Identity to systematic update of publications.

Citation

- Citation from Scopus, CrossRef
- Publication venue from Crossref
- OA articles link from BASE Search.

Search

- SOLR based faceted search with number of filters to find an expert

Analytics

- Research progress of the faculty, department, institute (publication)

Network

- Co-author network based on publication collaboration

Social Media Metrics

- Social media metrics from Altmetric.

Link to IR

- Full text Article link to Institutional repository & domain specific repository
IRINS Data workflow

Personal Information
CV, HR, ORCID ID
IRINS Data workflow

Personal Information
CV, HR, ORCID ID

Publication Information
Thomson Reuters
Scopus
Google Scholar
ORCID

01

02

Dr Pazhamalai Anbarasan
Associate Professor
Indian Institute of Technology, Madras

Expertise
Chemical Engineering
Organic synthesis

Personal Information

Dr Pazhamalai Anbarasan

Experience
2016 - Present
Associate Professor
Indian Institute of Technology, Madras, Chennai

2011 - 2016
Assistant Professor
Indian Institute of Technology, Madras, Chennai

Qualification
2007
Ph D
Indian Institute of Science, Bangalore

Doctoral Theses Guided
2018
Transition metal catalyzed construction of C-CN and C(=N)C bonds via C-H bond functionalization, Indian Institute of Technology Madras
IRINS Data workflow

01. Personal Information
   - CV, HR, ORCID ID

02. Publication Information
   - Thomson Reuters
   - Scopus
   - Google Scholar
   - ORCID

03. Impact
   - Scopus
   - Google Scholar
   - Microsoft Academic Search ID

Personal Information
- Dr Pazhamalar Anbarasan
  - Associate Professor
  - Indian Institute of Technology, Madras

Expertise
- Chemical Engineering
- Organic synthesis

Education Qualification
- Ph.D. in 2007
  - Indian Institute of Science, Bangalore

Academic Identity
- ORCID ID: 0000-0001-0018-9333
- Scopus ID: 0003649020

Experience
- 2011-2016: Assistant Professor
  - Indian Institute of Technology, Madras, Chennai
- 2016-Present: Associate Professor
  - Indian Institute of Technology, Madras, Chennai

Qualification
- 2007: Ph.D.

Doctoral Theses Guided
- 2018: Transition metal catalyzed construction of C=C and C-O bonds via C-C bond functionalization
Faculty Profiles

Department Profiles
(Aerospace Engineering)

IRINS at Institute level

Institute Profile
IRINS - Organisation view

- Faculty
  - Professor: 622
  - Associate Professor: 171
  - Assistant Professor: 155
  - Professor and Head: 16
  - Professor and Dean: 7

- Scholarly Resources
  - Journal Articles: 12890
  - In Proceedings: 2476
  - Total: 17103
  - 9486 Open Access
  - 1069 Behind OA
  - 593 Green OA
  - 120 Gold OA

- Resources Impact
  - Crossref: 104090 Citations
  - Scopus: 117794 Citations

- Departments
  - Department of Aerospace Engineering (33)
  - Department of Applied Mechanics (33)
  - Department of Biotechnology (32)
  - Department of Chemical Engineering (35)
  - Department of Chemistry (38)
  - Department of Civil Engineering (38)

- Faculty Profile
  - Dr Prafulla Kumar Behera
    - Associate Professor
    - 1034 Publications
    - 32792 Citations
    - 39654
  - Prof Pradeep Thalapill
    - Professor
    - 438 Publications
    - 12288 Citations
    - 15056

- Article
  - Observation of a new particle in the search for...
    - 4320 Citation
  - A tractable approach to coverage and rate in...
    - 4356 Citation
Department of Chemistry

16890 Citations
17957 Citations
75 H-index

http://iitm.irins.org
Benefit to the stakeholders

**Faculty Members and Scientists**
- Reduce the repetitive data entry;
- It enables the research related metadata more discoverable, interoperable and re-usable in the scholarly communication ecosystem;
- It provides exposure for their research contributions to the international community and attract collaborator for the interdisciplinary research.

**Organisation / Research Administrators**
- It provides new insight to the research administrator about the research interests of faculty members, research focus of the departments and schools;
- It enables the administrator to build performance assessment report, research impact analysis; and
- Reduce the time to collect research related information often from the department or faculty for reporting and decision making.

**Funding Agencies and Policy Makers**
- Assisting Policy Maker and Funding Agencies by providing research related information, which includes NDL, NIRF, NAAC, CSIR, DST, UGC, and MHRD;
- Support to the funding agency and policy maker to identify experts for project proposal review and various committees.
How to Join IRINS

Organisation having profiles in VIDWAN (https://vidwan.inflibnet.ac.in)

1. Update the existing profile in the VIDWAN;

2. Send API key, preferable domain name, organisation logo and nodal officer details to kannan.p@cup.edu.in / siva@inflibnet.ac.in; and

3. Send request to team IRINS for creating IRINS Instance

New IRINS Instance

1. Register as Nodal officer in VIDWAN

2. Collect the basic profile information of faculty members in the prescribed format and submit to kannan.p@cup.edu.in / siva@inflibnet.ac.in;

3. Send API key, preferable domain name, organisation logo and nodal officer details; and

4. Send request to team IRINS for creating IRINS Instance
## IRINS Implementation

<table>
<thead>
<tr>
<th>Institute of National Importance</th>
<th>Central University</th>
<th>State University</th>
<th>CSIR</th>
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<tbody>
<tr>
<td>IISc Bangalore</td>
<td>Pondicherry</td>
<td>Alagappa</td>
<td>CSIR-NAL</td>
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<tr>
<td><a href="http://iiscprofiles.irins.org">http://iiscprofiles.irins.org</a></td>
<td>University</td>
<td>University</td>
<td><a href="http://nal.irins.org">http://nal.irins.org</a></td>
</tr>
<tr>
<td>IIT Madras</td>
<td>Central University</td>
<td>Delhi Technological</td>
<td>CSIR-NIIST</td>
</tr>
<tr>
<td>IIT Delhi</td>
<td>Central University</td>
<td>Punjab University</td>
<td>Others</td>
</tr>
<tr>
<td><a href="http://iitd.irins.org">http://iitd.irins.org</a></td>
<td>of Tamil Nadu</td>
<td>University</td>
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<td><a href="http://cup.irins.org">http://cup.irins.org</a></td>
<td><a href="http://pu.irins.org">http://pu.irins.org</a></td>
<td>KL University</td>
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<td><a href="http://kluniversity.irins.org">http://kluniversity.irins.org</a></td>
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<td>OP Jindal University</td>
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<td><a href="http://opj.irins.org">http://opj.irins.org</a></td>
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Future Development

Software
- Release as Open Source Software in 2019

Data Analytics
- Publications, Citations
- National and International Collaboration
- Contributions in Open Access and Closed Access Publications, etc.

Faceted Search
- Faceted Search for the publication with various facets such as subject areas, department contributions, publication venue, etc.
- Multi Institutional Search

Linked Data
- Research related information converted into open linked data and would be accessible through public API
- Integration with VIVO Ontology
THANKS

Kannan.p@cup.edu.in

https://doi.org/10.25610/x923-gd97