Academic social networks: challenges and opportunities

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7th UNICA Scholarly Communication Seminar
27-28 th November 2014, Univ Sapienza Roma
• INRA produces scientific knowledge and works for economic and social innovation in the areas of food, agriculture and the environment.
• 8 488 employees, 213 research Units (2010)
• Institutional Repository Prodinra
  http://www.inra.fr/prodinra

Introducing myself: leading the Regional Scientific Information Team since 2002.
Co-leader of the scientific information technology group (research data, linked open data, open access technologies, digital and social tool practices.)
Since 2013, I have to answer questions about Academic Social Networks.
WHAT DEFINE A SOCIAL NETWORK FOR ACADEMICS?
Main functionalities

- Find researchers or experts, be more visible (profil)
- Find relevant documents
- Disseminate your publications
- Create a network followings/followers
- Discuss topics
Secondary functionalities

• Find a job (contact with companies or job offers)
• Manage and share bibliography
• Exchange with the intermediary of groups/communities or with people sharing the same interest: topics, skills expertise
• Evaluate or discuss document: Open peer-review, annotation
• Share informations (Questions/answer)
• Metrics / documents consultation
<table>
<thead>
<tr>
<th></th>
<th>Academia.edu</th>
<th>ResearchGate</th>
<th>Mendeley</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverage</strong></td>
<td>All</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td><strong>Network size</strong></td>
<td>7.1 million</td>
<td>5 million</td>
<td>1.6 million</td>
</tr>
<tr>
<td><strong>Full-text</strong></td>
<td>1.6 million</td>
<td>45 million</td>
<td>200 million</td>
</tr>
<tr>
<td><strong>Analytics</strong></td>
<td>Profiles, Doc views, Download, Countries, Followers, Following</td>
<td>Profiles, Doc views, Download Request for full-text, Countries, Followers, Following, Q&amp;A, RG index, Open Review, Claim for citations</td>
<td>Doc views, Readership stats</td>
</tr>
<tr>
<td><strong>Collaborators</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Job</strong></td>
<td>Yes. Via job board. Can load CV.</td>
<td>Yes. List skills and Expertise.</td>
<td>Yes. Can load CV.</td>
</tr>
<tr>
<td><strong>Funds</strong></td>
<td>Capital and True Ventures</td>
<td>StartUp private funds (Bill Gates FaceBook)</td>
<td>StartUp$$\rightarrow$$ Elsevier</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feature</th>
<th>Academia.edu</th>
<th>ResearchGate</th>
<th>Mendeley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share files</td>
<td>Papers, data, Github</td>
<td>Papers, data, patents</td>
<td>Papers</td>
</tr>
<tr>
<td>Link to OA or external URL</td>
<td>Yes</td>
<td>No. Except if you have load the full-text.</td>
<td>Yes</td>
</tr>
<tr>
<td>Request full text button</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Access</td>
<td>Free</td>
<td>Free</td>
<td>Free Fee for premium / institutional version</td>
</tr>
<tr>
<td>Privacy Profile</td>
<td>Public but Analytics can be private</td>
<td>Everyone/ mutual followers/researchgate members / none</td>
<td>Everyone/ Followers/ Only me</td>
</tr>
<tr>
<td>Privacy : notifications by e-mail</td>
<td>Many options</td>
<td>Many options</td>
<td>Many options</td>
</tr>
<tr>
<td>Bibliographic functions</td>
<td>Import manual</td>
<td>Import manual</td>
<td>Import and export function</td>
</tr>
<tr>
<td>Adding publication data manually</td>
<td>y</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>Biography and Curriculum</td>
<td>y</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>Adding publications (semi)automatically</td>
<td>Crossref + Microsoft AS+ PubMed + ArXiv</td>
<td>PubMed + IEEE + CiteSeer + RepEc + BMC</td>
<td>many search engines + import RIS or BibTeX</td>
</tr>
</tbody>
</table>
Who own the contents?

- Copyright article are behind pay wall and authors cannot put the fulltext into Social Networks
  - Elsevier asked to retire the papers from Aacademia.edu (Dec 2013)

  Recently Elsevier has begun sending take-down notices to Academia.edu for articles that authors have posted where they are in violation of the copyright transfer agreement that the author has signed. Most authors sign such agreements with publishers.

  - ResearchGate gives access to his database to stakeholders (CGU Researchgate) and will retire immediately documents on their demands
  - Social Networks are not clear about who own original contents. Youtube like licence?
  - Networks used to refers to Digital Millennium Copyright Act (DMCA)

Business models

R&D institutions that can improve the quality of their decisions by 10-20%.” Price (Academia CEO) envisions developing an algorithm which “would tell an R&D company which are the most impactful papers in a given research area in the last 24 hours, 7 days, 30 days, or any time period’.

offers universities and corporations the option to post job listings for free, but generates revenue by charging between 100 and 300 USD for increased visibility. Current job offers range from NASA to Novartis

will introduce a service that lets conference marketers pay to promote events and another for companies that want to advertise products, devices, books and services to scientists’.


P. Aventurier. Academic social networks: challenges and opportunities 7th Unica. 28/11/2014
SOCIAL ACADEMIC NETWORKS
PRESENTATION

http://researchgate.net

http://academia.edu
Profil created automatically → very easy to create yours
ResearchGate - Search
ResearchGate – Consultation
ResearchGate – Profil

Yvan Rahbe
PhD Biochemistry AgroParisTech
French National Institute for Agricultural Research - Biologie Fondamentale, Insédes et Interactions (BF2i)

Contributions

Publications

Views by country
- 2 France
- 1 USA

Views by institution
- 2 French National Institute for...
- 1 Iowa State University

TOP PUBLICATION VIEWS

1. Immunity and other defenses in pea aphids, Acyrthosiphon pisum.
   Genome biology 02/2010, 11(2)R21.

2. PlantPhysiol
   2 Immunity and other defenses in pea aphids, Acyrthosiphon pisum
   Genome Biol. 11(2)R21.
ResearchGate – Live Feed

- Nauman Khan asked a question in Data Mining:
  **What are Spatial Data Mining Options?**
  Hi Everyone, I would like ask a question about data analysis. I have two data sets about buses in an urban transport system. Timestamp and Speed with GPS Coordinates How can I mine? [more]
  2 answers added.

- Eloy Rodrigues added an article:
  **Article: O utilizador tem sempre razão? Inquirir para melhor servir os utentes das bibliotecas da Universidade do Minho**
  Eloy Rodrigues, Augusta Xavier Guimarães
  Request full-text Bookmark

- Suhaib Ansari asked a question in Data Mining:
  **What could be the best topic to research in Data Mining?**
  Various issues in performance are being regarded a large overhead in Data extraction. Also various query techniques are being used for various purposes. So i need to know what are... [more]
  13 answers added.

- Traian Rebdea asked a question in Information Retrieval:
  **Where can I find web people search (WePS) evaluation data?**
  Recently, we have started working on people search and have seen that most of the previous research is using the WePS-2
Academia.edu search

Browse works only with terms that already exist in the system
Academia.edu profil

Identity, age, photo,
Research interests
Title academic works, society membership
Awards
Professional address, Education, Languages
Optimized web search results through additional retrieval lists inferred using WordNet similarity measure

Search engines have become mandatory part in the usability of information available through Internet. They provide direct support in the growth of the World Wide Web. Today their concern is to give more importance to the precision in the top results suggested to reduce the iterative search of a concept by any user. Our main objective is to improve the efficiency of search results suggested by the search engine in response to a query. The objective is approached by constructing alternate queries for the main query given by the user. It involves the selection of contextually most similar alternate queries through the method proposed here. The coalition of results produced by the main query and the alternate queries could improve the precision in the top pages. We evaluated the proposed method and observed that the proposed method performed well in projection of some of the important links of the search results into the top few pages. Also, it is observed that the precision improved considerably.

by Aswani Kumar Cherukuri

Relationship between altmetric and bibliometric indicators across academic social sites: the case of CSIC’s members

This study explores the connections between social and usage metrics (altmetrics) and bibliometric indicators at the author level. It studies to what extent these indicators, gained from academic sites, can provide a proxy for research impact. Close to 10,000 author profiles belonging to the Spanish National Research Council were extracted from the principal scholarly social sites: ResearchGate, Academia.edu and Mendeley and academic search engines: Microsoft Academic Search and Google Scholar Citations. Results describe little overestimation
SCIENTISTS AND SOCIAL NETWORK
HOW RESEARCHERS USE THEM?
Nature 2014. Van Nordeen survey

Voices from the survey
“I use Mendeley only as a scientific paper browser and source.”
Mendeley User, age 25-34, United States, Research Scientist


P. Aventurier. Academic social networks: challenges and opportunities 7th Unica. 28/11/2014
Nature 2014. Van Nordeen survey

Twitter (330 regular visitors)
Facebook (340 regular visitors)
LinkedIn (389 regular visitors)
ResearchGate (1,589 regular visitors)

Voices from the survey
"It seems to be just a place to list my research outputs."
ACADEMIA.EDU USER, AGE 45-54, CHINA, ASSOCIATE PROFESSOR

"Metrics may have some interest."
RESEARCHGATE USER, AGE 45-54, UNITED STATES, RESEARCH SCIENTIST


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Social ACADEMIC NETWORKS

INTERESTS
Why Social Networks for academics?


• Richard Price founder of Academia.edu

• "With networks like Twitter and Facebook, information whizzes around at laser speed," Mr. Price says, "whereas in science, and research in general, the average time lag is a year before a paper gets in a journal and is distributed to the rest of the world."

• With the Web, of course, distribution is instantaneous. "When you read a paper and want to comment, you'll be able to respond immediately," he says. "The conversation will take minutes and hours instead of months and years."
Enhanced visibility

Google Scholar

Interactions between apple cell walls and native apple polyphenols: quantification and some consequences

Cell walls were prepared from apple parenchyma by a phenol buffer procedure. Polyphenols were extracted from freeze-dried apple parenchyma by methanol and water: acetone, and purified by preparative HPLC. Interactions were quantified by bringing into...
March 2014

- Notify authors when a review is occurring
- No Open review on its own publications
- No anonymous reviews
- No possibility to refuse, but you can report abusive review
RG Metrics

Profile Metrics

- **96 Publications**
  - 7k Views
  - 1,281 Downloads
  - 1,686 Citations
  - 220.99 Impact Points

- **Featured Publications**
  - Article: Abstracts of papers presented at the 9th meeting of the international council for the study of viruses and virus diseases of the grapevine
  - Views: 52
  - Downloads: 0
  - Citations: 0

- **Publications Overview**
  - Views Last Week: 121
  - Publication Views:
    - Daily
    - Weekly
  - Views by Country:
    - United States (27)
    - China (14)
    - Argentina (3)
  - Views by Institution:
    - Molecular Breeding (10 Views)
    - Journal of Food Research (9 Views)

- **Academic Social Networks**
  - Challenges and Opportunities
  - 7th Unica
  - 28/11/2014
Gain for researchers

- Find a job / a post doc
- Find new collaborators/teams
- Track relevant article to read
- Discuss new scientific hypothesis
- Valorize works for gain more citations

Gain for institution

• Valorize scientific and competence from institution
• Analyze data, new metrics
• Insure the e-reputation of the institution
• Strengthen international collaborations
• Gain traffic on institutional website
• More impact for projects with scientists and development actors (technical exchanges)
Social ACADEMIC NETWORKS

RISKS AND DANGERS
Researchers

- Time consuming
- Witch platform? difficult to choose no interoperability
- share it is to renounce to a competitive advantage
- Sustainability
- Not enough active users
- Use not optimized or inefficient
- Lack of management of digital identity
- Automatic solicitations by e-mail
- Content property
- Risk of jeopardizing one’s career
Institutions

• Spread of knowledge who might be used by competitors
• Lack of control of the institution reputation
• Analyze by other institutions of the use of networks
• Tools multiplication
• Substantial Underuse of the institutions tools
• Sustainability
AN ALTERNATIVE: SOCIAL NETWORKS IN OPEN SOURCE
An interdisciplinary network
Enabling collaboration and discovery among scientists across all disciplines.

- **1997**, created by Univ Cornell.
- millions $ of investments national network for american Universities in life science
- **Open source**
- Semantic web and linked data (aggregation of existing data)
  - Optimize the use of social networks into an institution: visibility, thematics, research materials
  - Share researchers profiles into the Vivo network (all institutions if connected)
  - Link to knowledge objects as institutional repositories
  - Discovery tools

http://vivoweb.org
in test at INRA
AUTHOR1

Positions

- Directeur de Recherche, Abeilles et Environnement, Santé des plantes et environnement
- Santé des plantes et environnement

selected publications

academic article


- Comparative study of *Nosomna ceranae* (Microsporida) isolates from two different geographic origins. *Veterinary Microbiology*. 162:670 – 678. 2013-01-01


- Flight behavior and pheromone changes associated to *Nosomna ceranae* infection of honey bee workers (*Apis mellifera*) in field conditions. *Journal of Invertebrate Pathology*. 113:42 – 51. 2013-01-01

- Flight behavior and pheromone changes associated to *Nosomna ceranae* infection of honey bee workers (*Apis mellifera*) in field conditions. *Journal of Invertebrate Pathology*. 113:42-51. 2013-01-01

more...
Explore activity (17 publications) across 554 scientific subdisciplines

554 Subdisciplines | 13 Disciplines i

Search: X i

1 - 13 of 554 « First Prev Next Last »

<table>
<thead>
<tr>
<th>Subdisciplines</th>
<th># of pubs.</th>
<th>% of activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insects</td>
<td>0.0</td>
<td>35.3</td>
</tr>
<tr>
<td>Biotechnology Trends</td>
<td>3.0</td>
<td>17.6</td>
</tr>
<tr>
<td>Insect Physiology</td>
<td>2.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Veterinary Microbiology</td>
<td>2.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Ecology</td>
<td>1.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Genomics &amp; Nucleic Acids</td>
<td>1.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Molecular Biology Methods</td>
<td>1.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Pest Management Science</td>
<td>1.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Acoustics</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Addictive Behavior</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Aeronautics &amp; Astronautics</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Aerospace</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Affective Disorders</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

© 2006 The Regents of the University of California and GoTech Strategies.
Map updated by GoTech Strategies, DIT and CNS in 2011.
Conditions of utilization
mapped 53.13% of 32 publications

Save All as CSV
CONCLUSION
Interactions of Tools

Social Media
- Twitter
- Pinterest
- Facebook

Open Repository
- Self archiving once, read many
- Sustainability

Social Networking
- ResearchGate
- Academia.edu
- VIVO, Biomed experts...

Discuss Science (hypothesis) before publication
Meet Collaborators

Reference Management
- Mendeley
- Zotero

Cris Current Information Research Systems
- Team laboratory level

In the context of academic social networks, tools such as ResearchGate, Academia.edu, and VIVO are used for self-archiving once and enabling many reads, which is crucial for sustainability. Social networking platforms like Twitter, Pinterest, and Facebook facilitate discussions on scientific hypotheses before publication and the meeting of collaborators. Reference management tools such as Mendeley and Zotero are essential for managing and citing research references, especially at the team laboratory level.
## Network / OR Open repository / CRIS Current Research Information System

<table>
<thead>
<tr>
<th></th>
<th>Network (private)</th>
<th>Open Repository</th>
<th>CRIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perenity</td>
<td>Not sure (business approach)</td>
<td>Long term</td>
<td>Long term</td>
</tr>
<tr>
<td>Visibility</td>
<td>Individual visibility</td>
<td>Institutional visibility</td>
<td>Team/laboratory visibility</td>
</tr>
<tr>
<td>Editing list / outputs</td>
<td>Almost no possibility</td>
<td>Lot a possibilities For work For Research assessment</td>
<td>-</td>
</tr>
<tr>
<td>interactions</td>
<td>A lot about contents and with researchers</td>
<td>Some social functions</td>
<td>with others systems Cerif (EuroCris) model representation of research entities, their activities / interconnections (research) and their (results)</td>
</tr>
<tr>
<td>Sharing documents</td>
<td>Share = upload the document in each site</td>
<td>Self archiving once, share many</td>
<td>Link with Open Repository</td>
</tr>
</tbody>
</table>
Trend: Researchers want to collaborate online (Van Noorden, Nature 2014)

But sharing alone is not enough. Knowledge only becomes useful when we can distinguish between relevant and less relevant information, when we can discuss aspects of the information, when we can annotate and improve on ideas, when we can devise new approaches and collaborate online.

Open science: free and unrestricted access to information and use interactive media to collaborate online

Olijhoek, Tom - Scientific social networks are the future of science
Re academic platforms: "We're surrounded by honeypots... We haven't strategies / policies how to deal with them yet!"
(@R_Koenig at #pdsc14)
References

- Olijhoek, Tom http://access.okfn.org/2012/03/20/scientific-social-networks-are-the-future-of-science/