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Science 2.0, How to succeed your thesis in the era of social networks and distributed information

Denis Gillet • **Swiss Federal Institute of Technology (EPFL)**

Digital Soft Skills for PhD Candidates
Geneva University, September 30, 2014 10:15 - 11:15

Agenda

- My profile
- Communities of practice
- From Research 1.0 to 2.0
- Shaping your online scientific identity

React Research Focus

Coordination

Adaptive Telescopes

Sensor and actuator networks

Remote Labs
Insulin Pumps

Cyber Physical Systems

Intelligent Cars
Unmanned Aerial Vehicles

Human-Computer and Human-Device Interaction

Inquiry Learning in STEM for kids

Internet of Things

Web of People

Focus on structures, algorithms, protocols, services and platforms

Interaction

Learning Environments

Social Media platforms

Personalization
Responsiveness

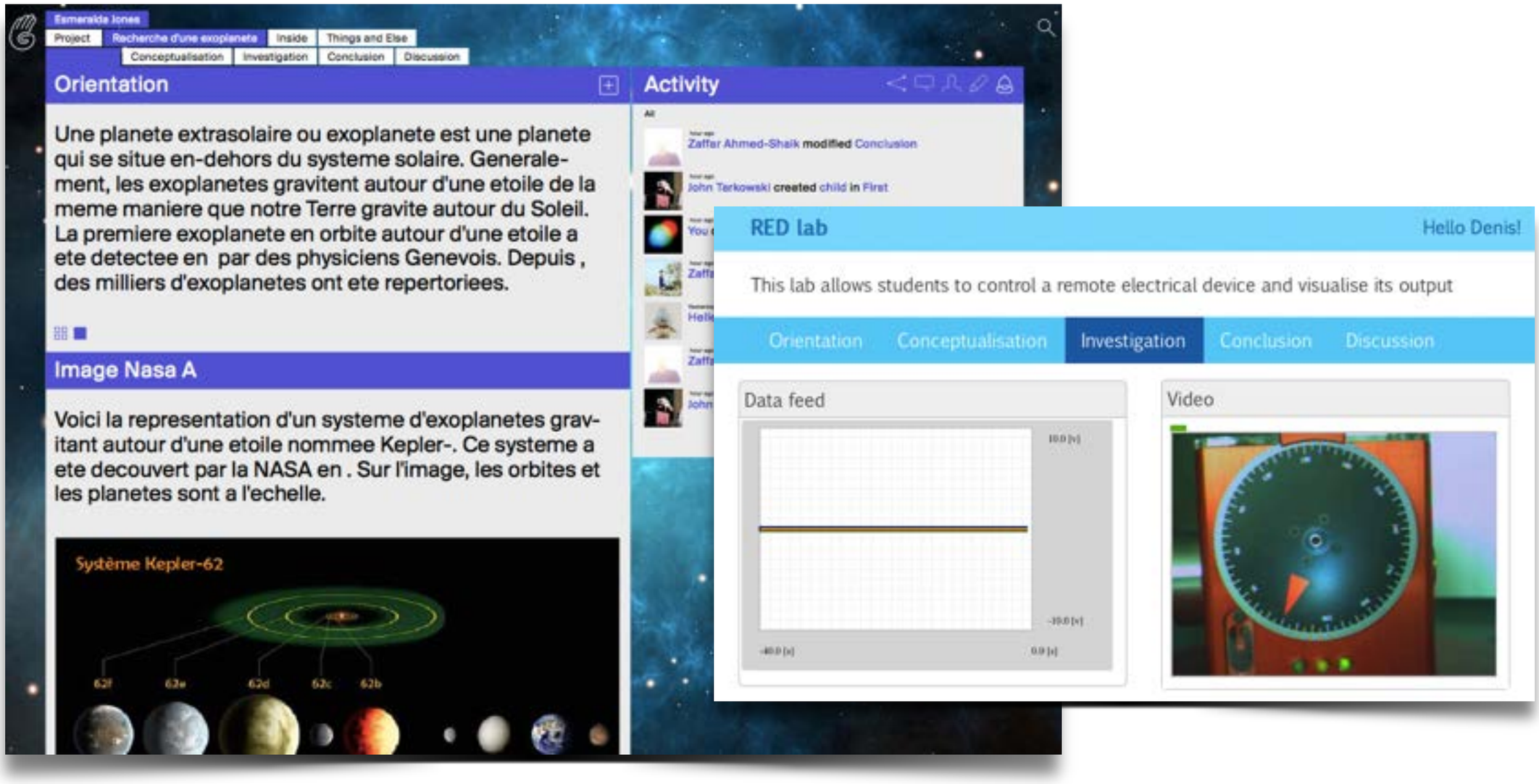
Shared Digital Artifacts

Knowledge Management
Recommender Systems
Learning Analytics

React Current Research Projects

Graasp: Next Generation Social Media Platform

- Contextual opportunistic interaction between people, content, services, objects and knowledge in the **cloud** or in the **field**



Communities of Practice in Technology Enhanced Learning

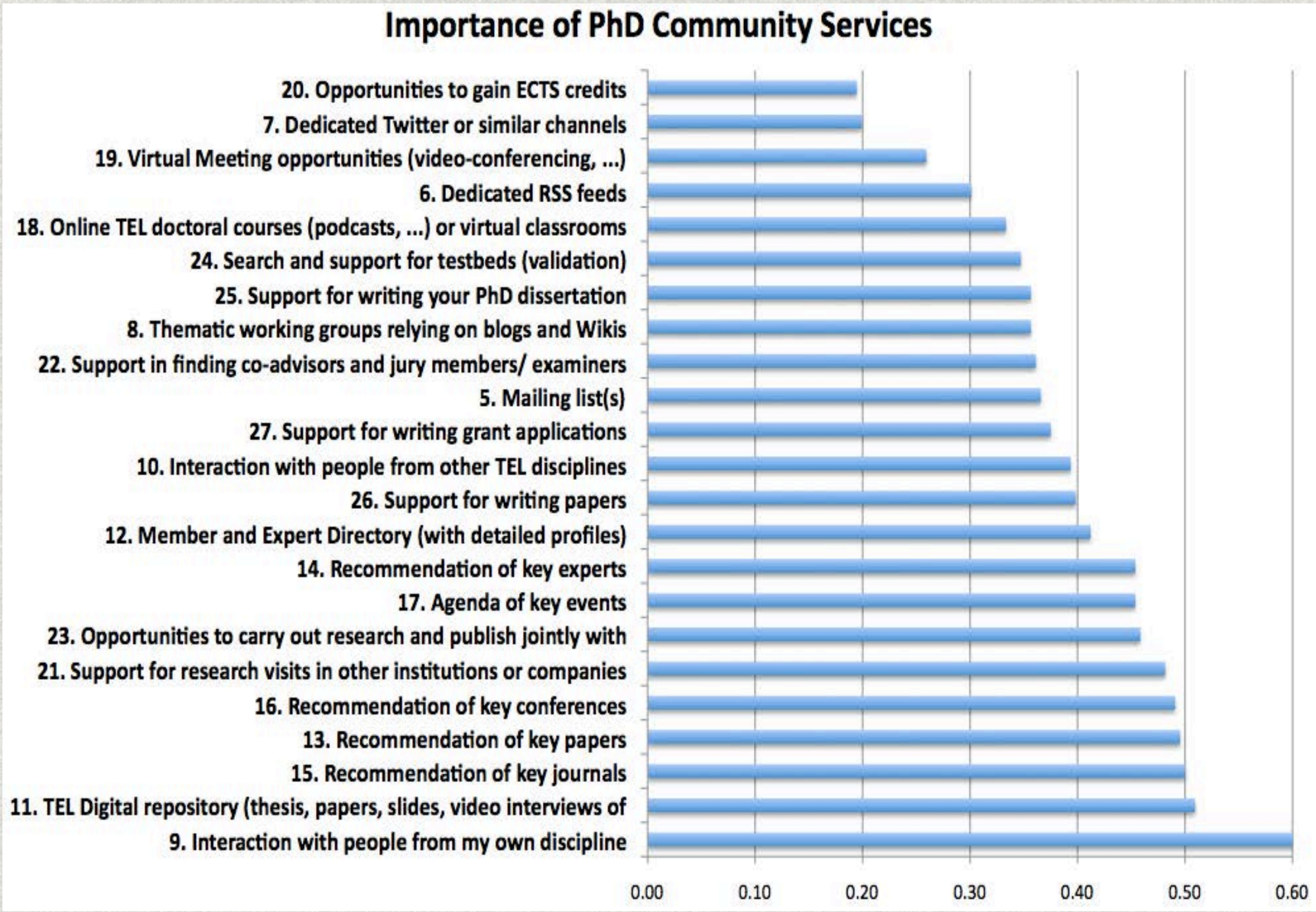
Community **o**f **P**ractice

- CoP are knowledge-oriented groups of people freely aggregated and operating as social entities (Wenger)
  - to share ideas or passions
  - deepen practical knowledge and expertise
  - solve problems in a given domain
  - develop relationships
- Members learn from each other by making their knowledge and practices explicit, sharing them with their peers, and reflecting on them (trust, roles, places)
- CoP operate, evolve, grow (and die) via a careful combination of face-to-face and mediated interaction

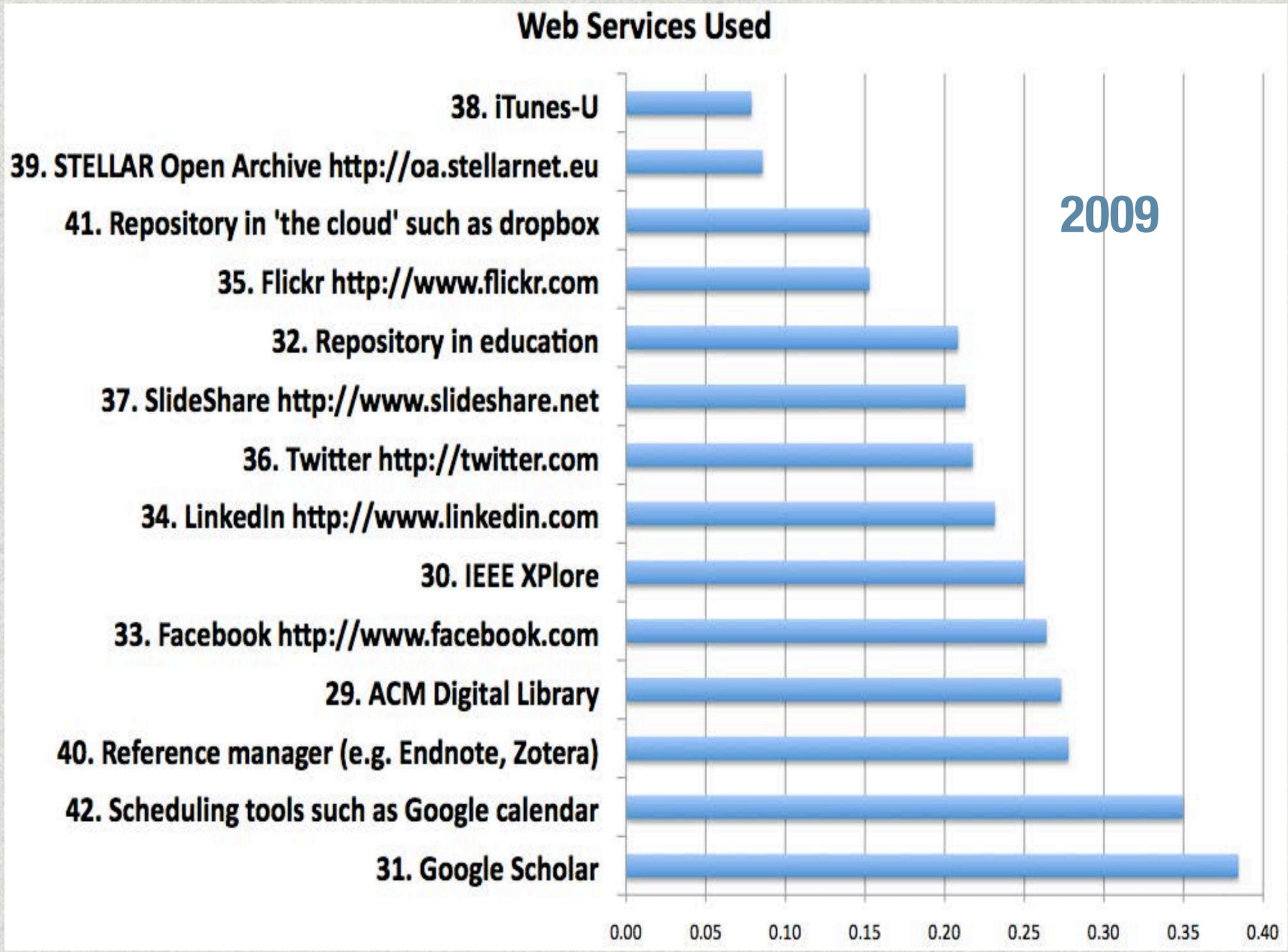
The TEL **Do**ctoral **CoP**

- PhD candidates, PhD advisors and experts in TEL share research practice and learn from each other
  - Reduce isolation, enable co-authoring
  - Establish broader discussion, co-coaching
  - Enable sharing of datasets and testbeds
  - …
- Questionnaire sent to former TEL doctoral summer and winter schools participants, as well as doctoral consortia ones (EC-TEL Conference)
- 72 responses collected at the beginning of last year, 58% Technology-oriented PhD students, 42% Education- and psychology-oriented ones

DoCoP Questionnaire



DoCoP Questionnaire



Science 2.0

From Science 1.0 to 2.0

- *Understand Science 1.0 to shape Science 2.0*
- Science 1.0 is about contributing to
  - **common** understanding and formalization
  - **shared** knowledge and practices
  - **accepted** models and methodologies
  - innovative, disruptive or alternative solutions to **general** challenges and problems
  - …

From Science 1.0 to 2.0

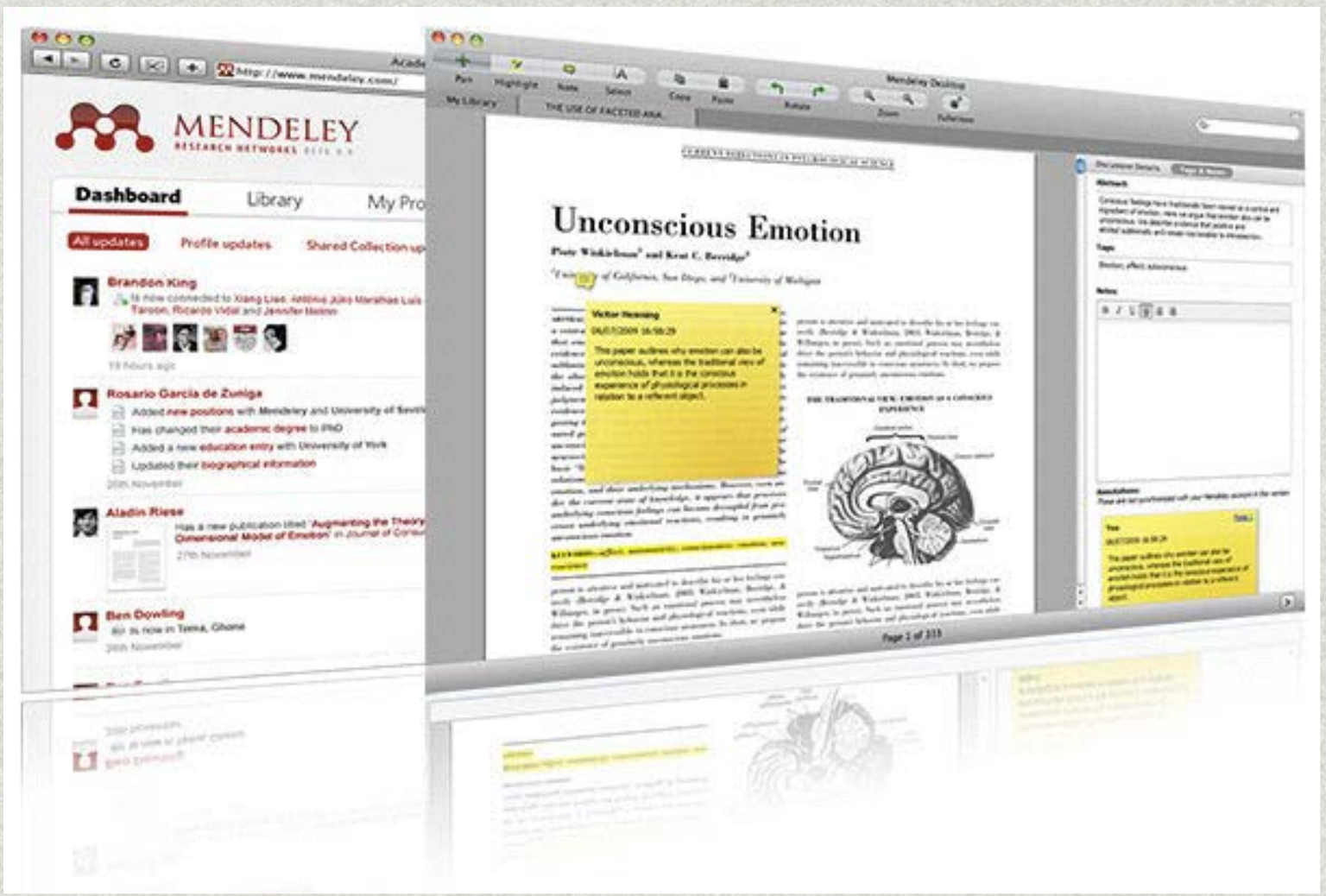
- *Understand Science 1.0 to shape Science 2.0*
- Science 1.0 practices
  - Formalization, creation, investigation, validation
  - Generalization and reproducibility (universal)
  - Publication and presentation
  - Peer review and discussion in expert bodies and communities
  - Contribution to advances by constructing or relying on previous works and achievements
  - Citation-based recognition and promotion

From Science 1.0 to 2.0

Science 1.0 issues	**Science 2.0 solutions**
Disconnected discussions in closed communities (castes) of experts	Targeted discussions in large and open communities (blog, wiki, twitter, …)
Overload of scientific production and relevant conferences	Search & recommendation for experts & results (google scholar, repositories, …)
Slow and biased reviews, late publication, no possible revisions	Immediate reactions, comments and revision in interest groups (LinkedIn, …)
Slow social network construction and personal recognition in silos	Smooth integration in various communities with quick ways to get influential roles
Sharing artifacts limited to papers (difficult access to data)	Sharing datasets, analysis methods and grids, visualization solutions
Research carried out individually or in small teams	Collaborative distributed works with more co-authoring opportunities
Selective, publisher dictatorship, anachronistic, …	**Open, democratic, timely, … Academic practice resilience !**

Science 2.0 Platforms

- **Mendeley**: Academic reference management software for researchers (www.mendeley.com)
  - Most read versus most cited paper approach ;-)

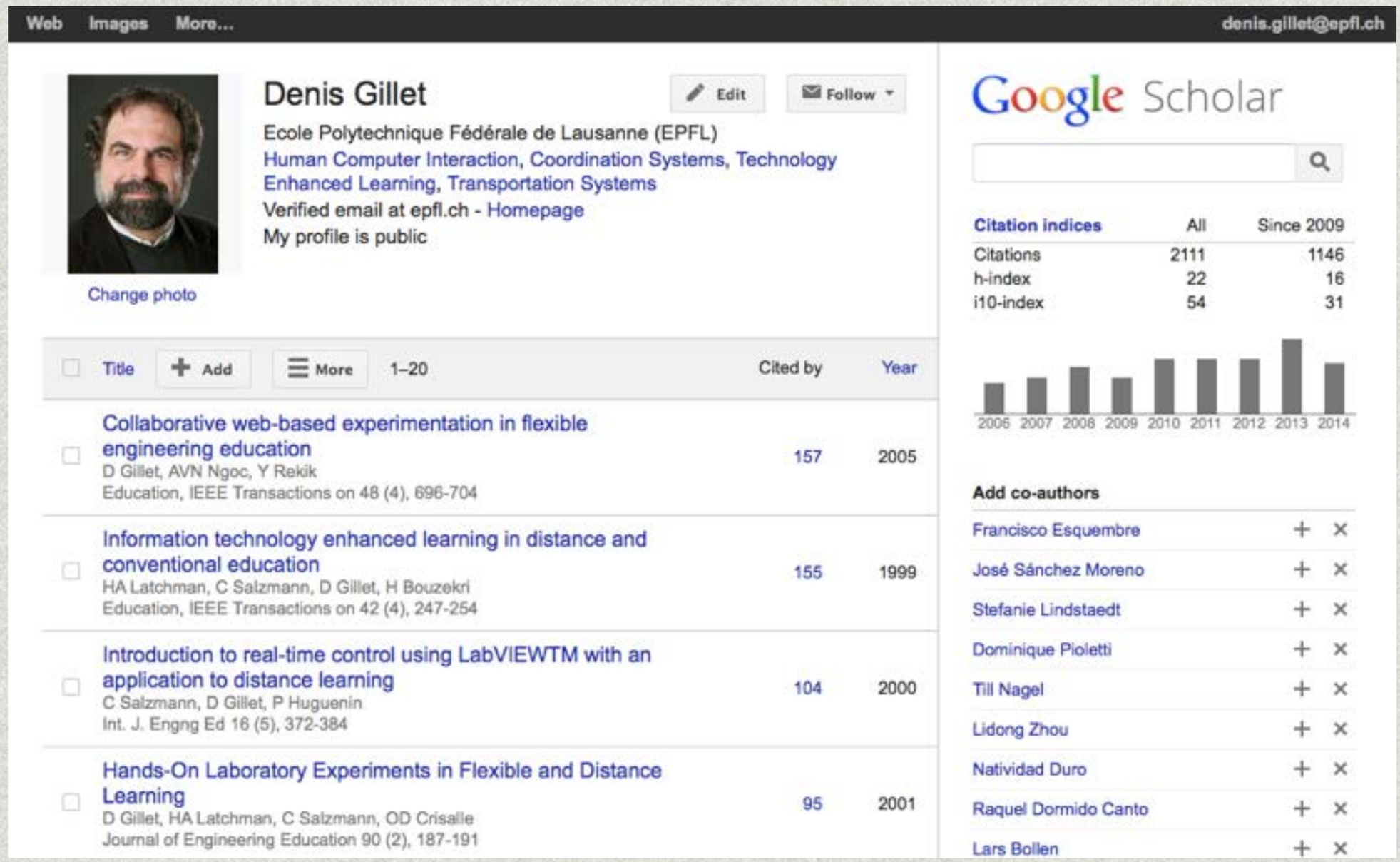


Science 2.0 Platforms

- **ResearchGate**: Automatic and social aggregation of papers (http://www.researchgate.net)

Science 2.0 Platforms

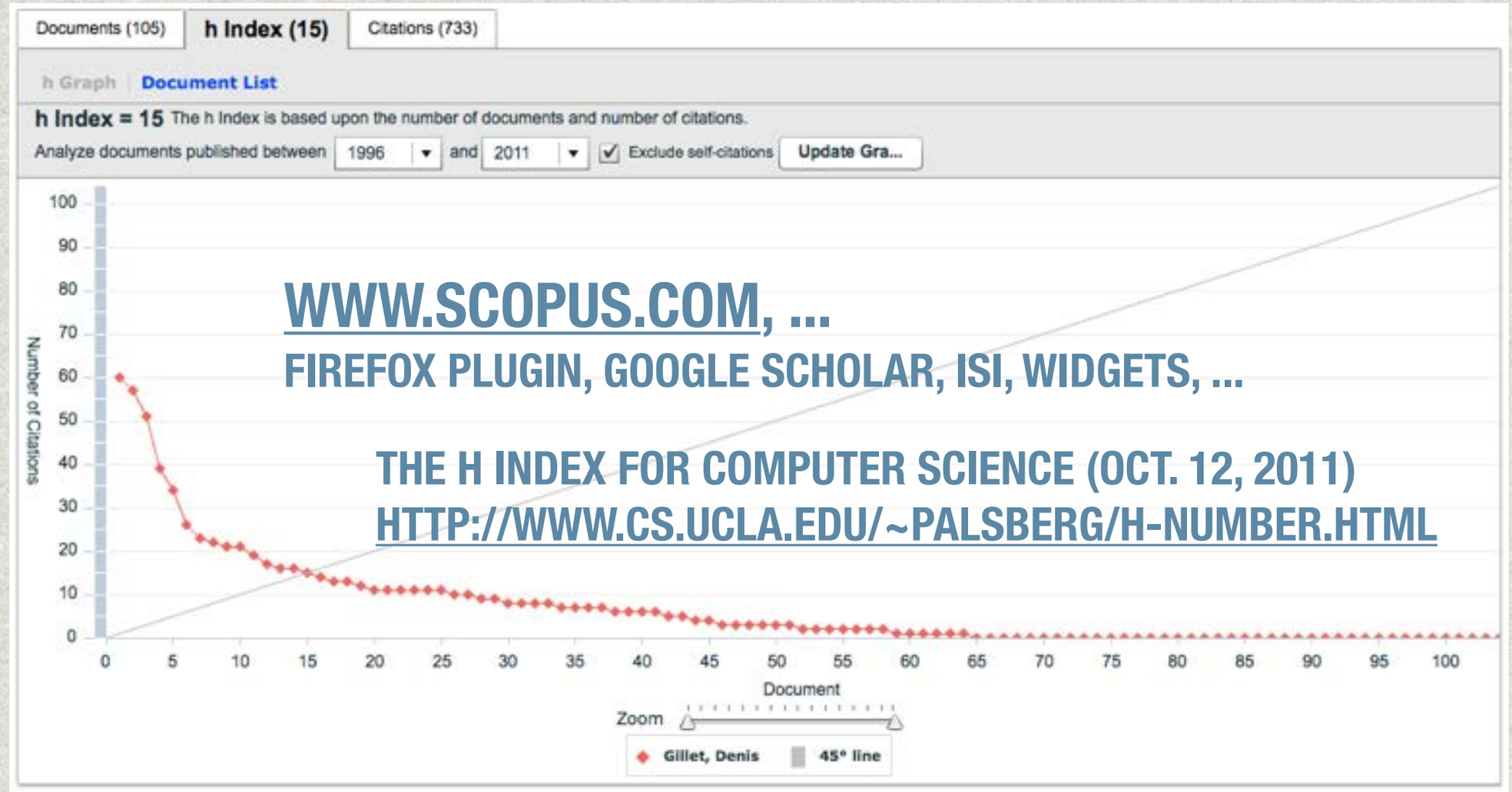
- **GoogleScholar**: (http://scholar.google.com)



Shaping your online scientific identity

h-index

- A scientist has index *h* if *h* of his/her *Np* papers have at least *h* citations each, and the other (*Np* – *h*) papers have no more than *h* citations each



WWW.SCOPUS.COM, ...

FIREFOX PLUGIN, GOOGLE SCHOLAR, ISI, WIDGETS, ...

THE H INDEX FOR COMPUTER SCIENCE (OCT. 12, 2011)
HTTP://WWW.CS.UCLA.EDU/~PALSBERG/H-NUMBER.HTML

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2011

1 Trust-aware privacy control for social media

Na Li, Maryam Najafian Razavi, Denis Gillet

May 2011 **CHI EA '11:** Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems

Publisher: ACM

Full text available: PDF (422.94 KB)

Bibliometrics: Downloads (6 Weeks): 18, Downloads (12 Months): 85, Citation Count: 0

Due to the huge exposure of personal information in social media, a challenge now is to design effective privacy mechanisms that protect against unauthorized access to social data. In this paper, a trust model for social media is first presented. Based ...

Keywords: privacy, social media, trust, web 2.0

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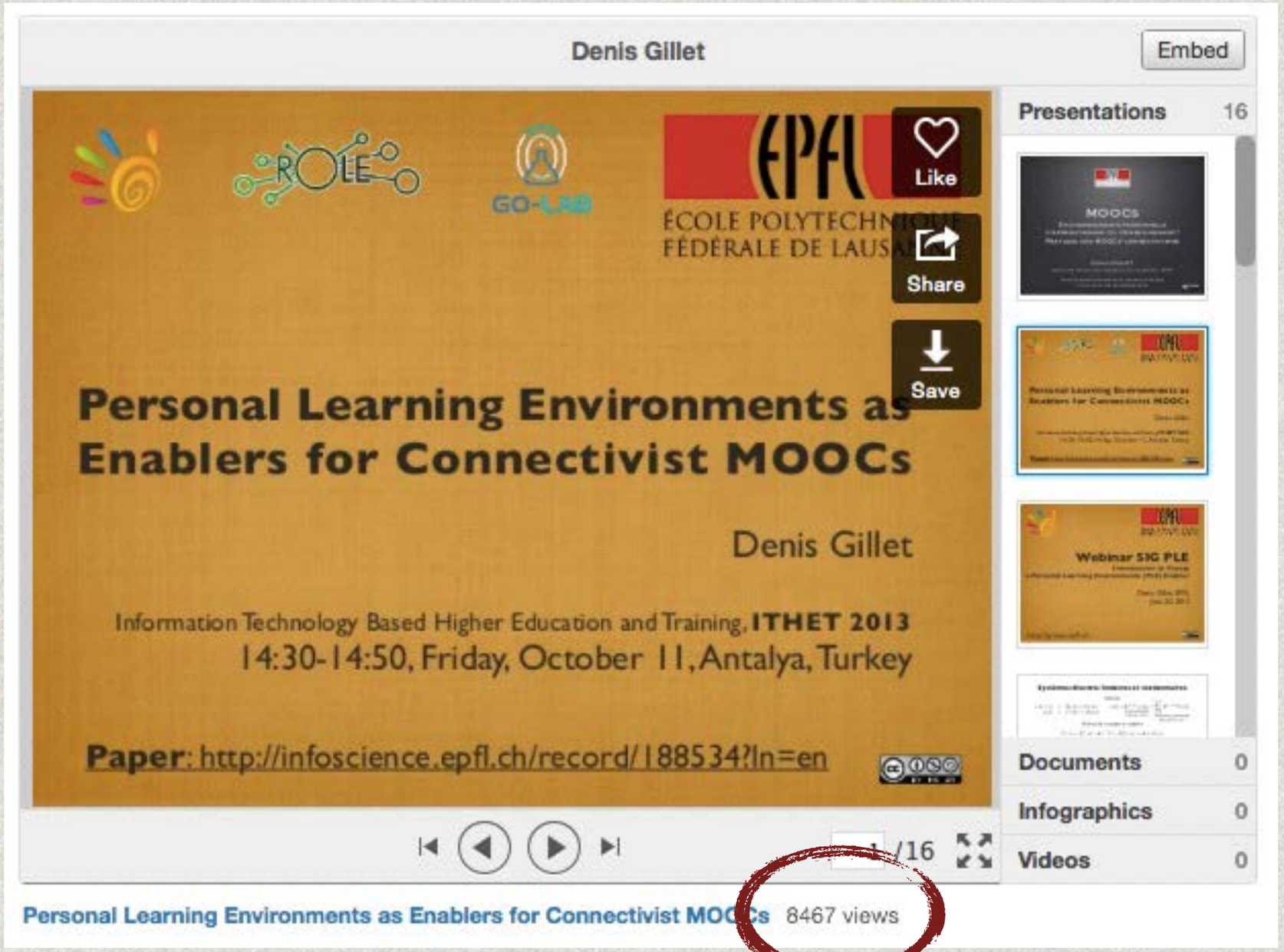
The Web 2.0 blog stars

- Bring traffic to your Science 1.0 channels

Slideshare and others

- Bring traffic to your Science 1.0 channels



5 people in the session

Discussion

Contact & Links

- denis.gillet@epfl.ch

- http://interaction.epfl.ch
- http://graaasp.epfl.ch
- http://www.stellarnet.eu

- http://www.role-project.eu