Collaborative Efforts to change Science Publishing

Anita de Waard

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The Netherlands

a.dewaard@elsevier.com

Entities:

- FEBS Structured Digital Abstract
- OKKAM Entity Authoring tool

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Hypotheses and Evidence:

- Discourse Analysis of Biology Articles
- The Hypotheses, Evidence and Relationships

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Collaborations:

- The Elsevier Grand Challenge
- The Future of Research Communication

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FEBS Letters Structured Digital Abstracts

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Collaborative effort with FEBS Letters Editorial Office in Heidelberg/ MINT database curators in Rome

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Being used as Gold Standard for Biocreative Challenge 2009

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with TPAP and GSG1, both proteins colocalize in the ER. Moreover, expression of GSG1 stimulates TPAP targeting to the ER, suggesting that interactions between the two proteins lead to the redistribution of TPAP from the cytosol to the ER.

MINT-6168263:
Gsg1 (uniprotkb:Q8R1W2), *TPAP* (uniprotkb:Q9WVP6) and *Calmegin* (uniprotkb:P52194) *colocalize* (MI:0403) by *cosedimentation* (MI:0027)

MINT-6168204, MINT-6168178:
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Moreover, express
ER, suggesting tha
the redistribution c

MINT Home | Search | Curation | Statistics | Download

Interaction: **MINT-6743118**

This interaction is supported by **figure 2**
interaction type: **physical interaction**
comment: AtRGS1 (E320K) mutant also interacts with AtGPA1 using BiFC.
Detection method: **bimolecular fluorescence complementation**
interaction detected in **leaves** (Nicotiana benthamiana , taxid: 4100)

expand
Freeze
score
GPA1 Arabidopsis thaliana

2 partners: 2 neutral components

RGS1 *(author)*
At3g26090 Arabidopsis thaliana
GPA1 *(author)*
Guanine nucleotide-binding protein alpha-1 subunit
GPA1 Arabidopsis thaliana

Sample	living cell
Expression	over-expressed level
Identification	predetermined participant
Tag	yfp tagged

This interaction is curated from:
d-Glucose sensing by a plasma membrane regulator of G signaling protein, AtRGS1. Grigston JC. et al. FEBS Lett. (0014-5793) **pubmed:**18817773

Structured abstract (**the febs letter experiment**):
in this publication the authors describe the following interactions:
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Structu
in this
MINT-6
RGS1

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Search Swiss-Prot/TrEMBL for Go Clear

UniProtKB/TrEMBL entry Q8H1F2

[Entry info] [Name and origin] [References] [Comments] [Cross-references] [Keywords] [Features] [Sequ

Note: most headings are clickable, even if they don't appear as links. They link to the user manual or other documents.

Entry information	
Entry name	**Q8H1F2_ARATH**
Primary accession number	**Q8H1F2**
Secondary accession numbers	None
Integrated into TrEMBL on	March 1, 2003
Sequence was last modified on	March 1, 2003 (Sequence version 1)
Annotations were last modified on	July 22, 2008 (Entry version 22)
Name and origin of the protein	
Protein name	**Putative uncharacterized protein At3g26090**
Synonyms	None

OKKAM project

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FP7 IP: 2008 - 2010, 13 partners, 7 countries: universities (Trento, DERI) and companies (SAP, ANSA, Elsevier)

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Goal: support and enable the use of globally unique identifiers for entities on the Web,

global entity identifier management infrastructure & services

currently in OKKAM store: 5 my entities

extensions into common tools: Protege (see demo!), GMail, Blogger -> RDFa, MS Word

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Our use case:

finding proteins and interactions in Life Science articles (i.e., semi-automating FEBS SDA!)

OKKAM entity editor in MS Word

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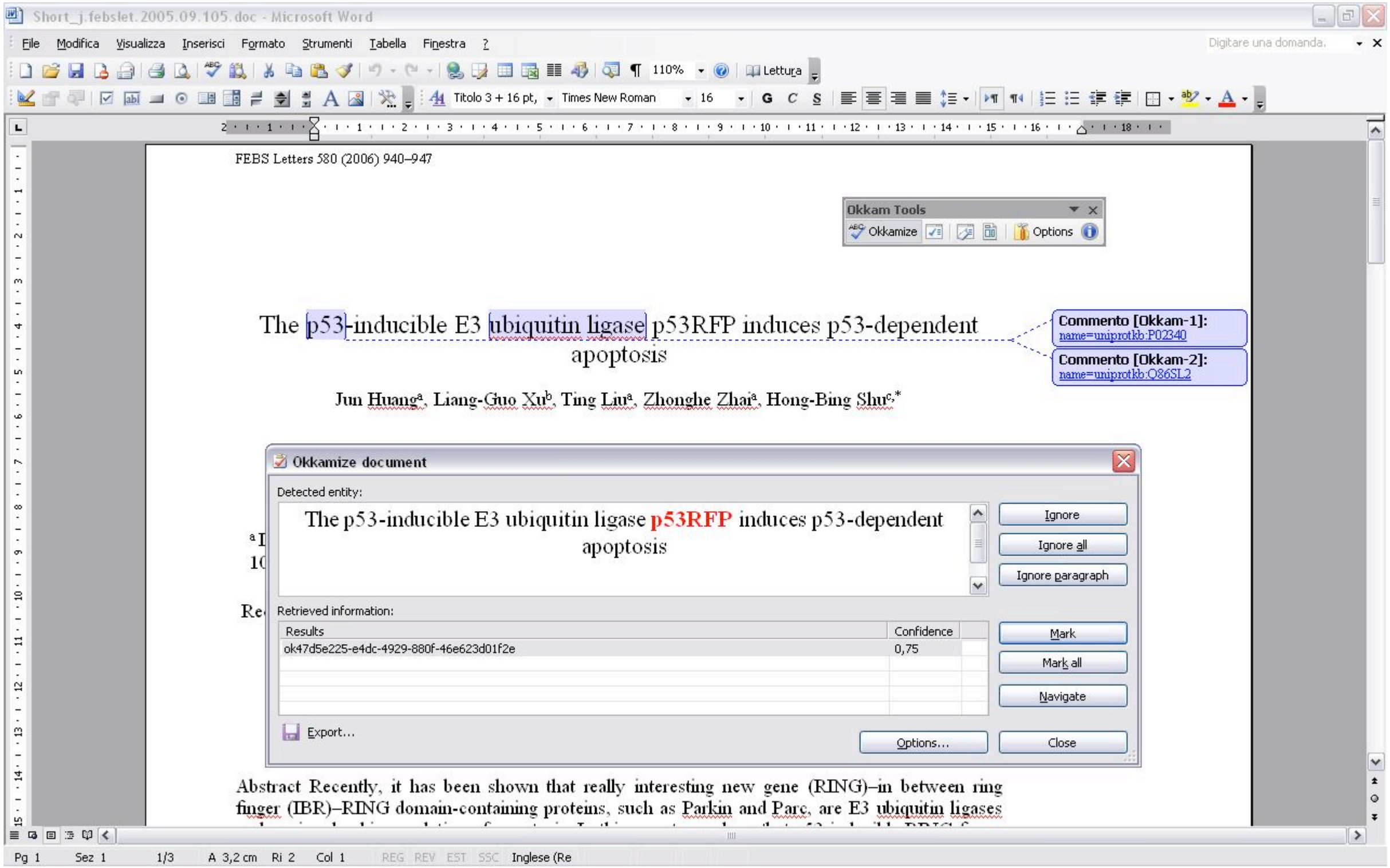

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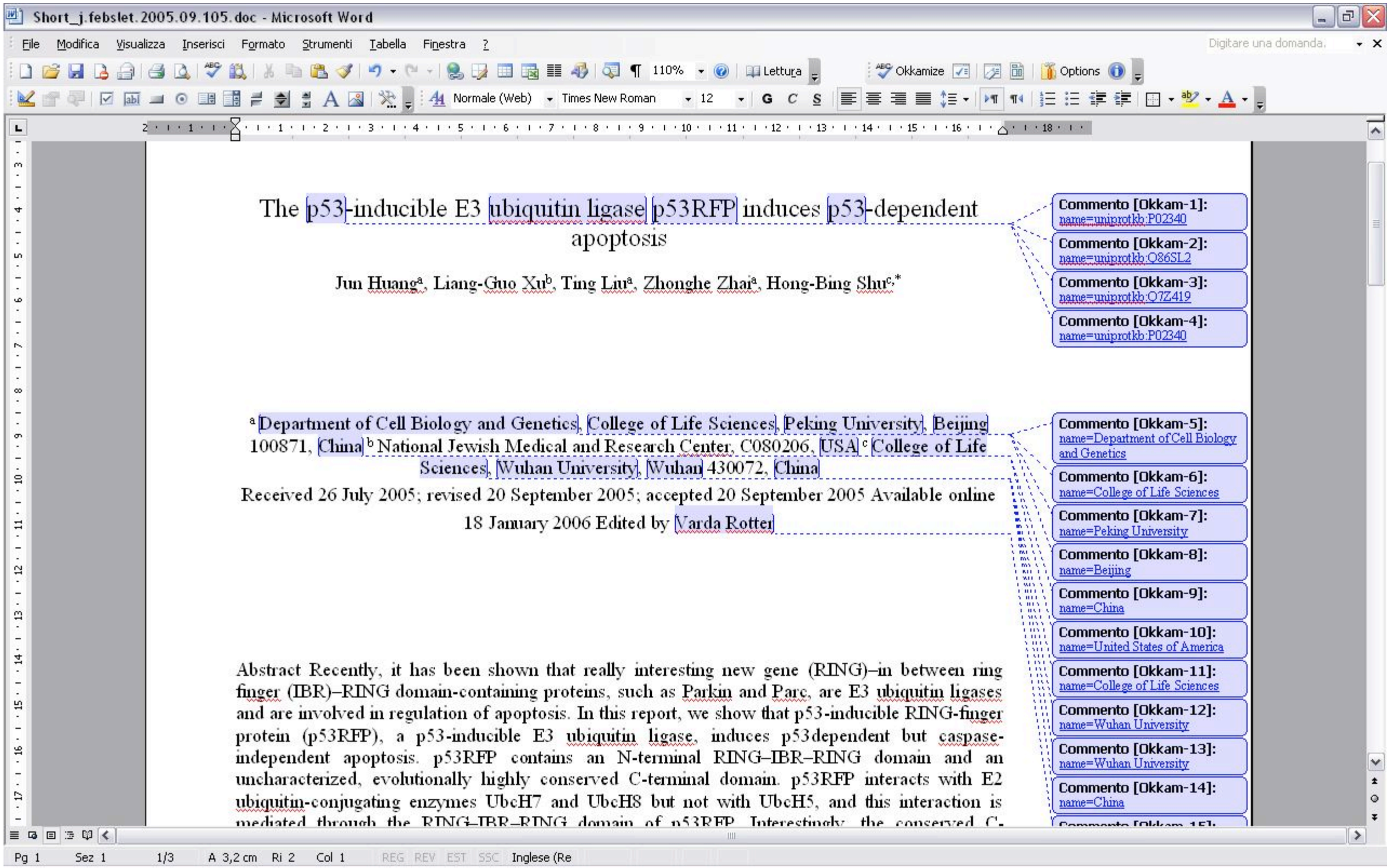

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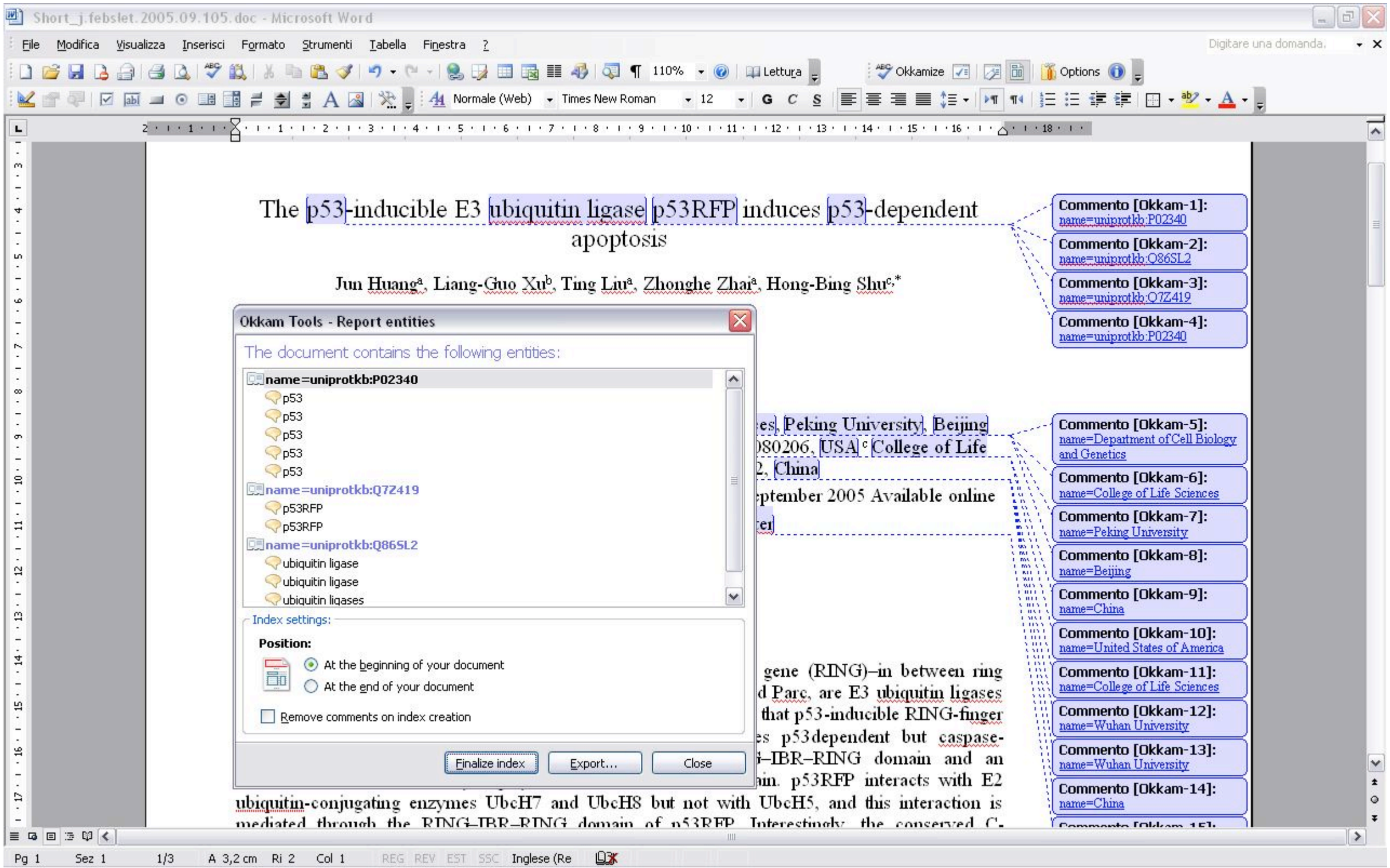

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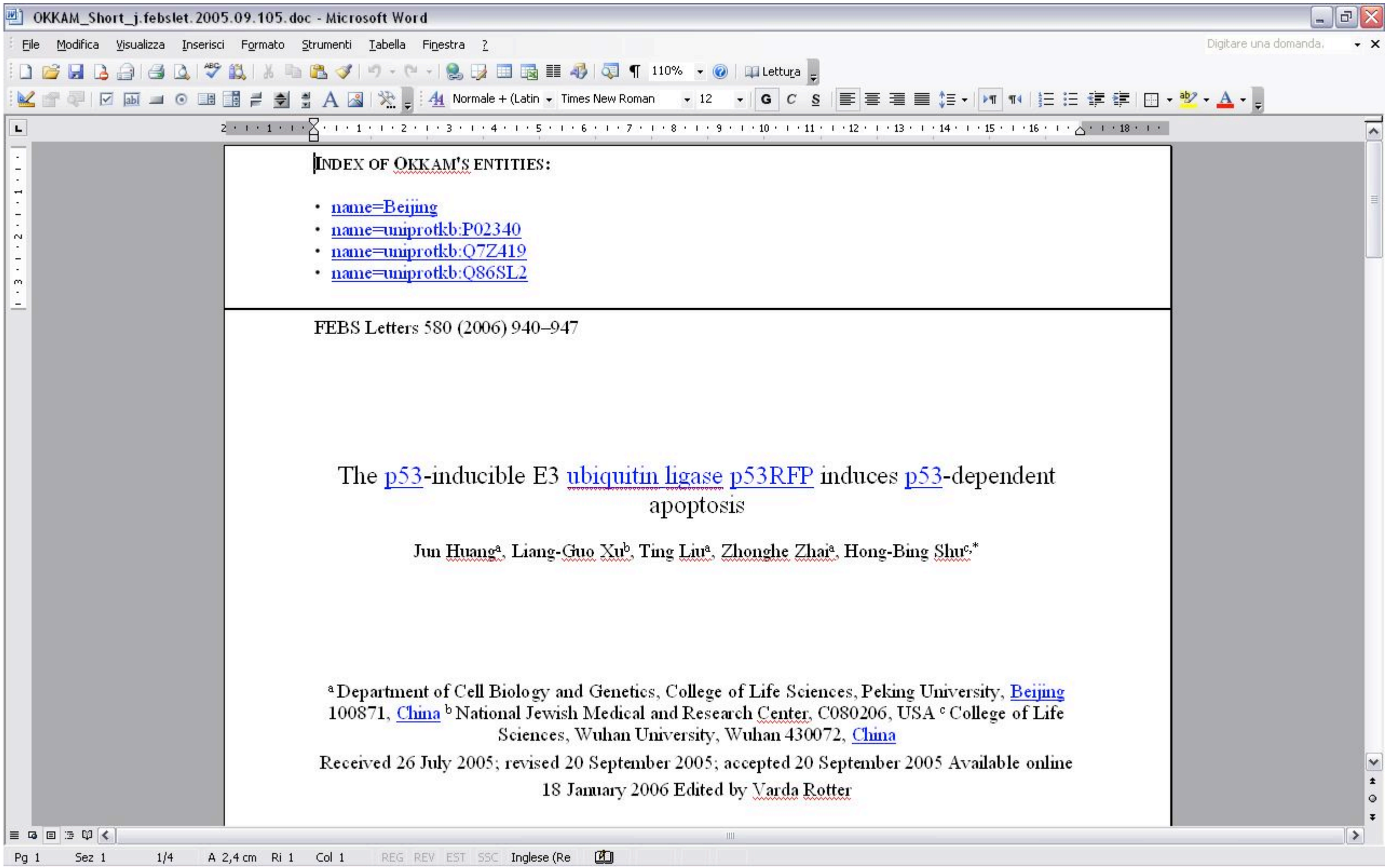

Hypotheses and Evidence

Science Occurs in Language

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Oncogene-induced senescence is characterized by the appearance of cells with a flat morphology			
that express senescence associated (SA)-β-Galactosidase.			
Indeed, control RAS^{V12}-arrested cells showed relatively high abundance of flat cells expressing SA-β-Galactosidase (Fig. 2 G and 2H).			
Consistent with the cell growth assay, very few cells showed senescent morphology			
when transduced with either miR-Vec-371&2, miR-3^{kd}.			
Altogether, these data show that			
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Segment	Type	Tense	Markers
Oncogene-induced senescence is characterized by the appearance of cells with a flat morphology	Fact	Past	
that express senescence associated (SA)-β-Galactosidase.	Fact	Present	
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Consistent with the cell growth assay, very few cells showed senescent morphology	Result	Past	Booster
when transduced with either miR-Vec-371&2, $miR\text{-}3^{kd}$.	Method		
Altogether, these data show that	Report	Present	Additive
transduction with either miR-Vec-371&2 or miR-Vec-373 prevents RAS^{V12}-induced growth arrest in primary human cells.	Implication	Present	

Realms of Science

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Conceptual realm

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Conceptual realm

Experimental realm

Realms of Science

Conceptual realm

Experimental realm

Data realm

Realms of Science

Conceptual realm

(1) Oncogene-induced senescence **is characterized by** the appearance of cells with a flat morphology that **express** senescence associated (SA)-β-Galactosidase.

(4b) transduction with either miR-Vec-371&2 or miR-Vec-373 **prevents** RAS^{V12}-induced growth arrest in primary human cells.

Experimental realm

(2a) Indeed,

(4a) Altogether, these data **show** that

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(2c) (Figures 2G and 2H).

Data realm

(Figures)

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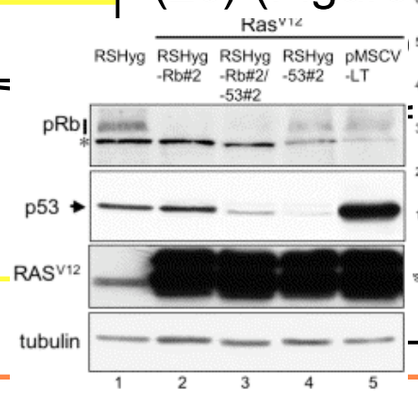
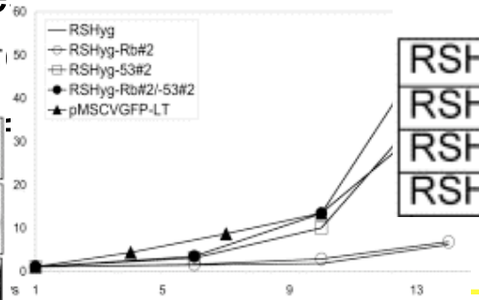
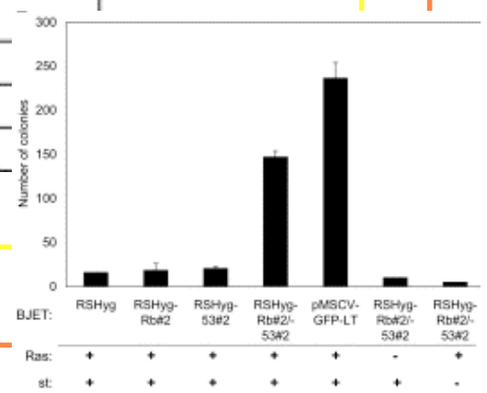




	Tumors after 4 weeks
RSHyg-empty	0/6
RSHyg-53#2	2/6
RSHyg-Rb#2	0/4
RSHyg-Rb#2/-53#2	5/6



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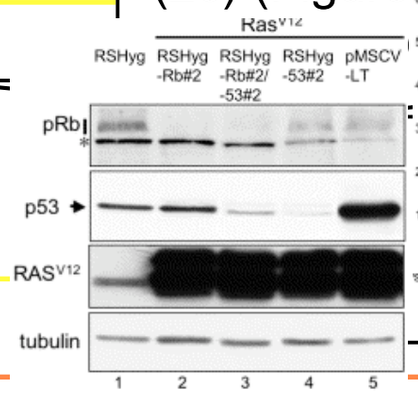

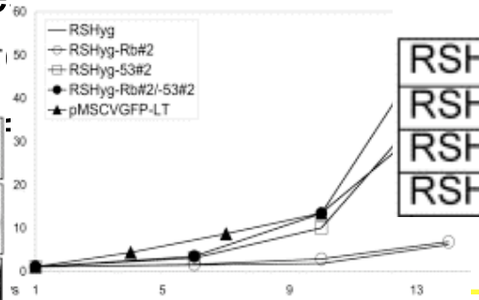

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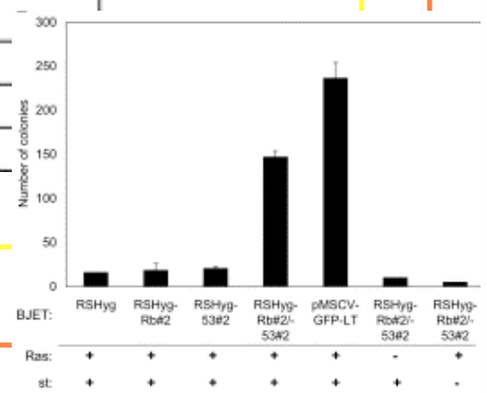

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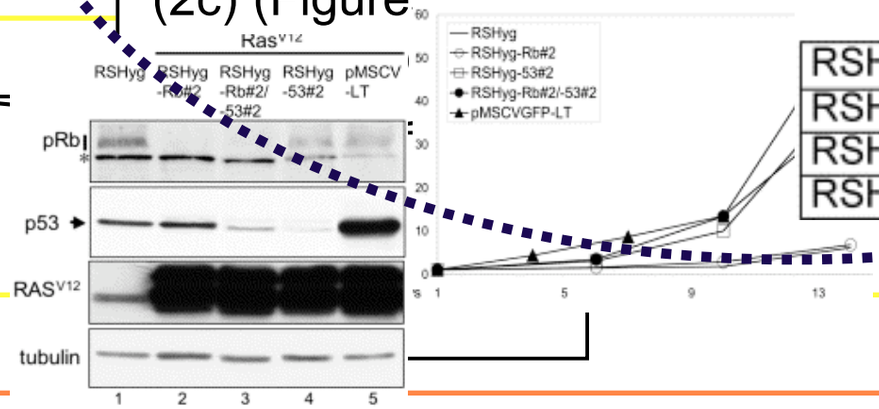

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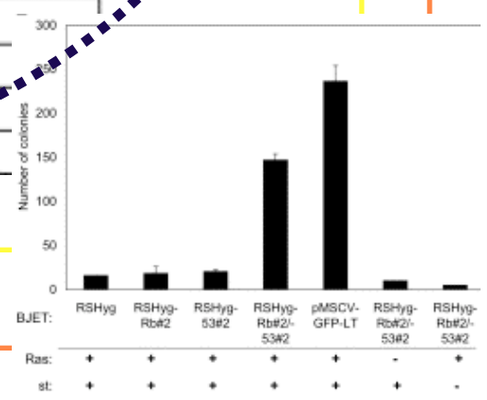

Hypotheses, Evidence and Relationships

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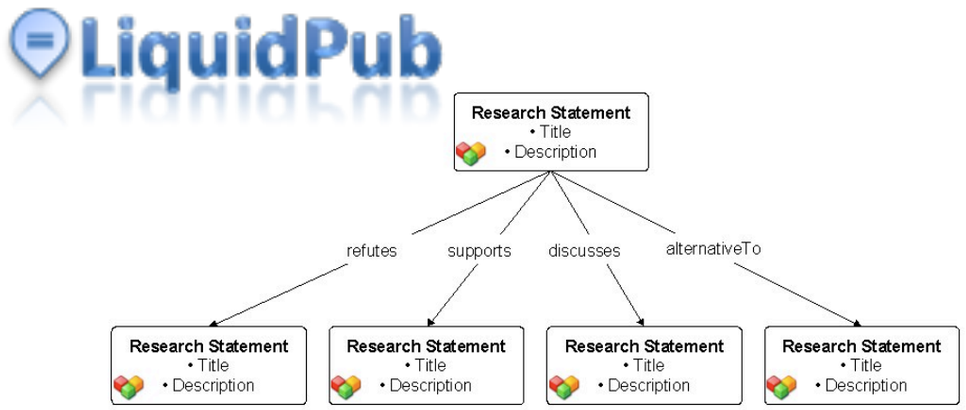
LiquidPub

Hypotheses, Evidence and Relationships



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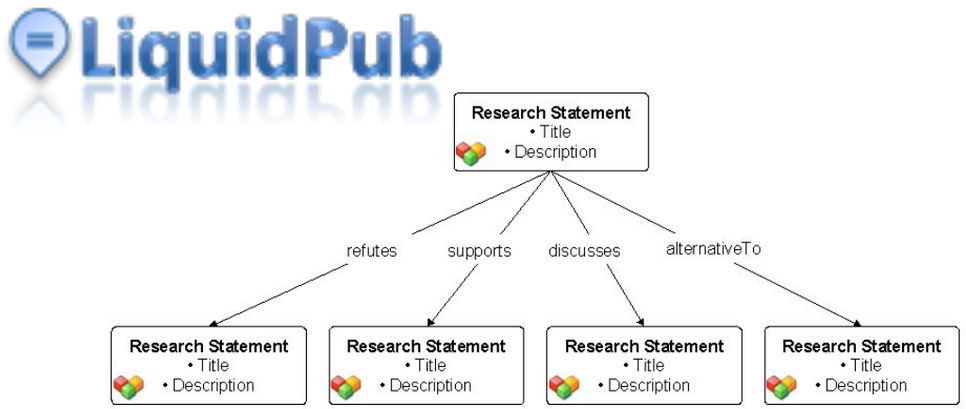

Hypothesis 22: **Intramembrenous Aβ dimer may be toxic.**

Derived from: POSTAT_CONTRIBUTION(This essay explores the possibility that a fraction of these Abeta peptides never leave the membrane lipid bilayer after they are generated, but instead exert their toxic effects by competing with and compromising the functions of intramembranous segments of membrane-bound proteins that serve many critical functions.

Hypotheses, Evidence and Relationships

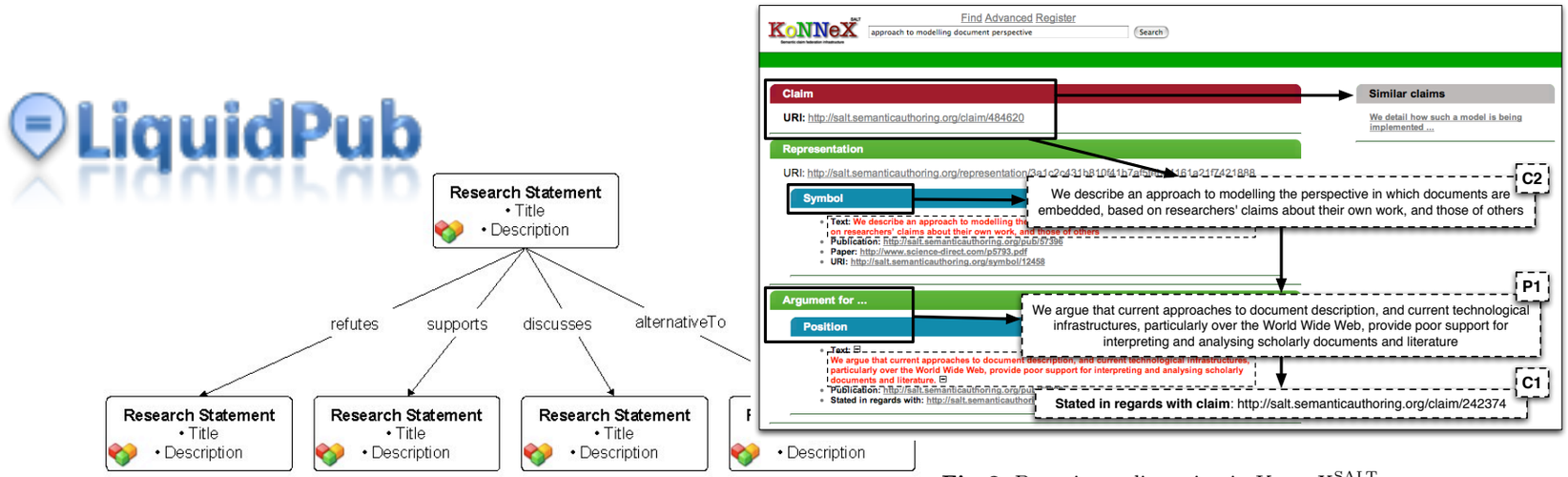

Fig. 2. Browsing a discussion in KonneX^{SALT}

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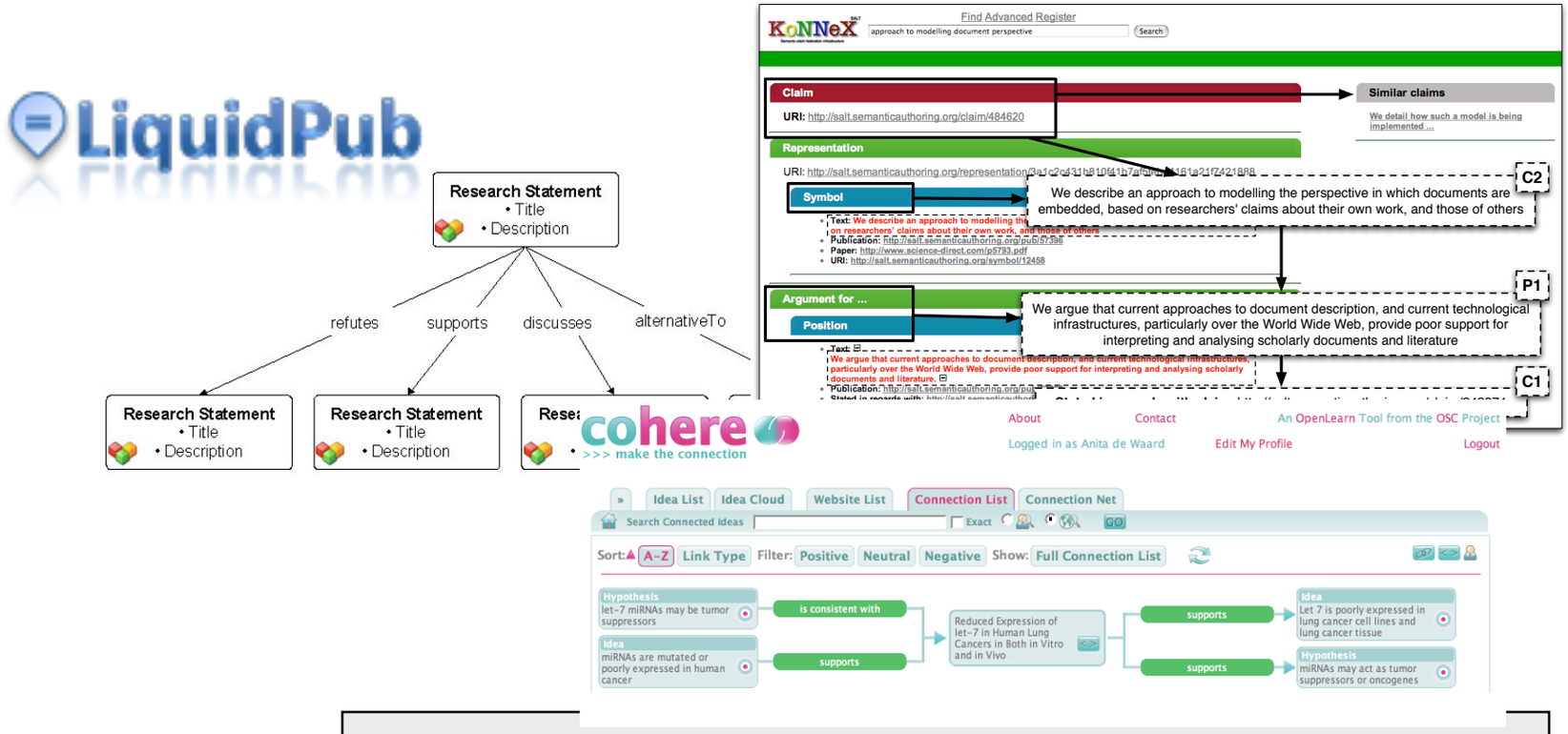

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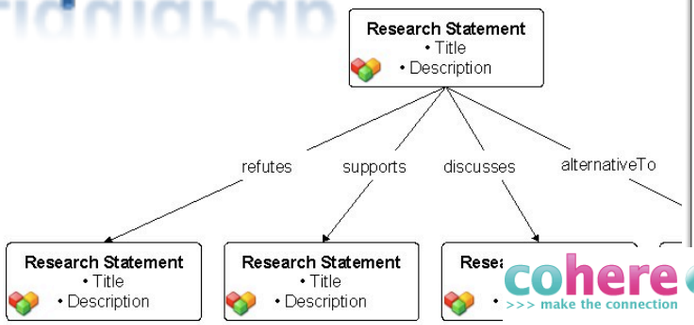

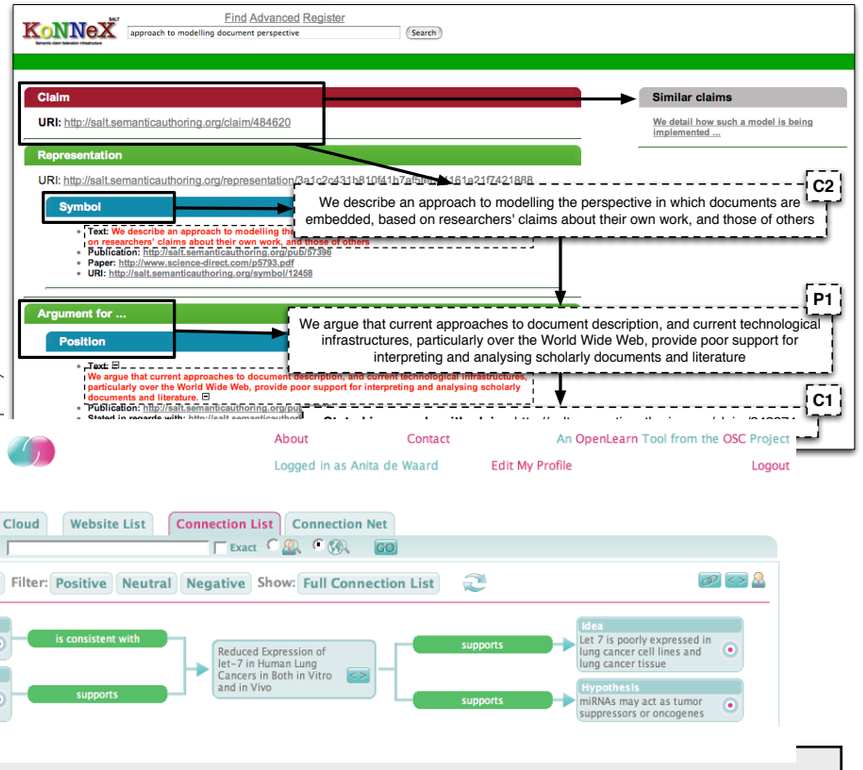

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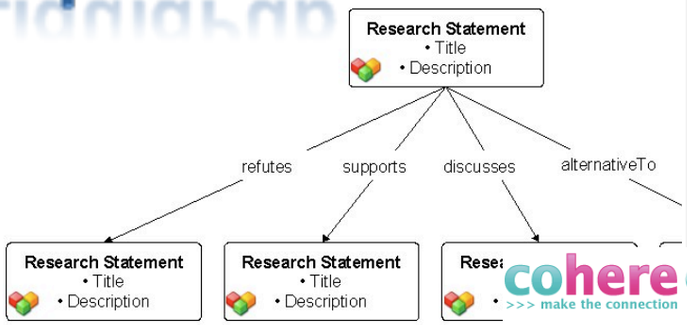

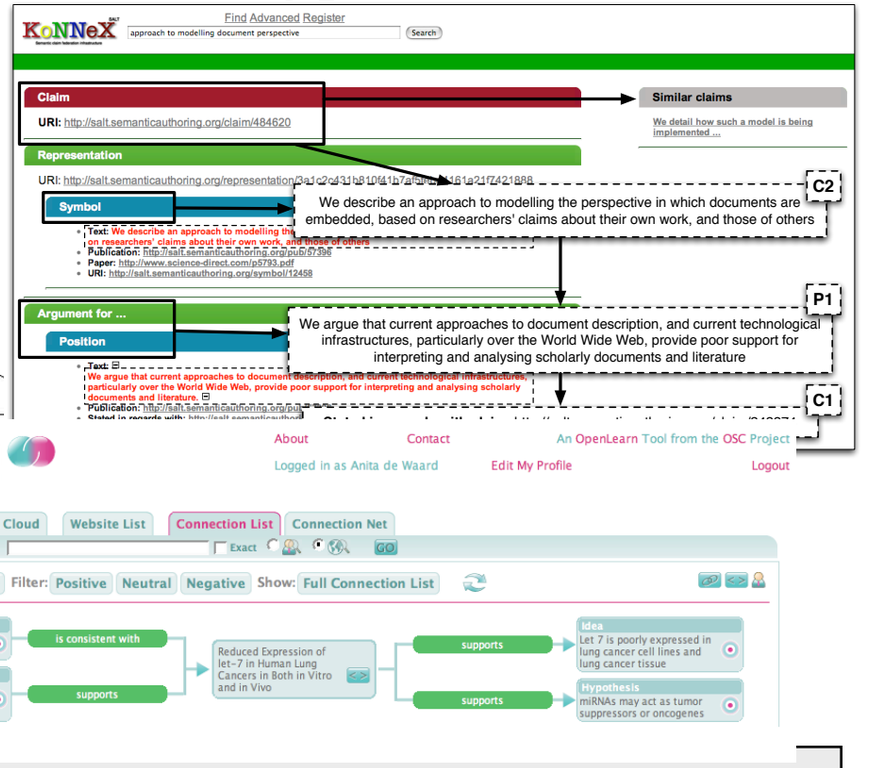

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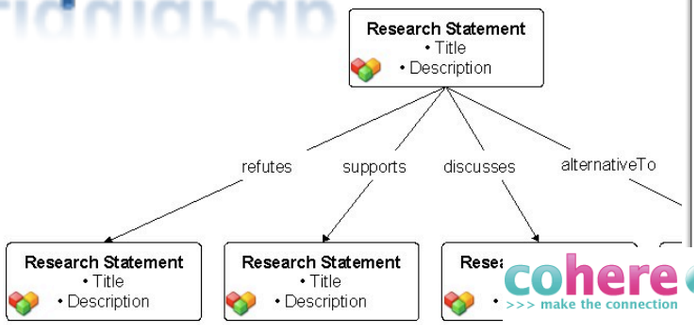

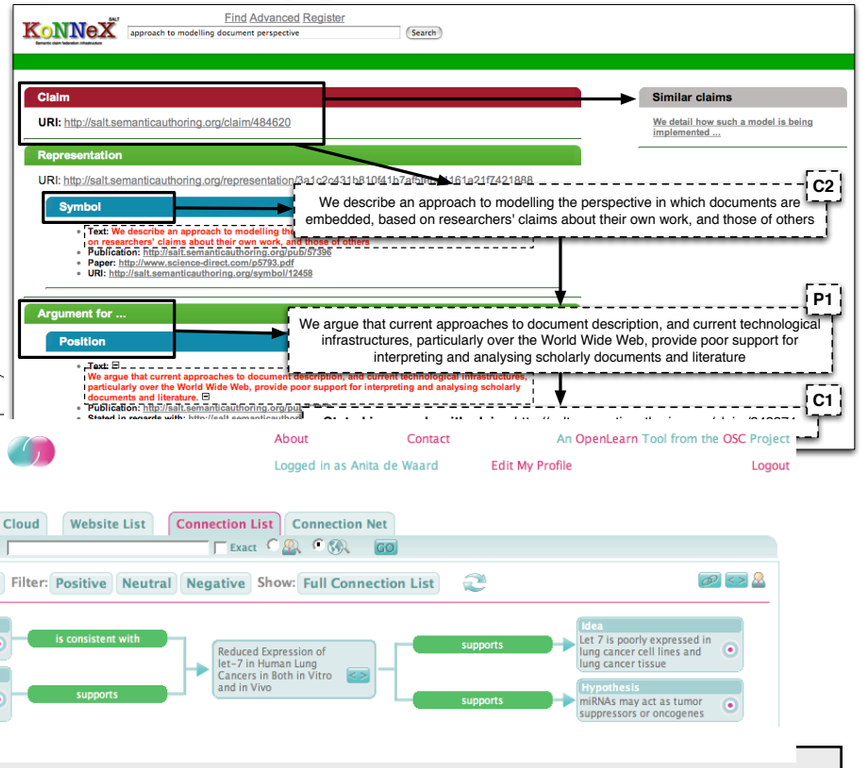

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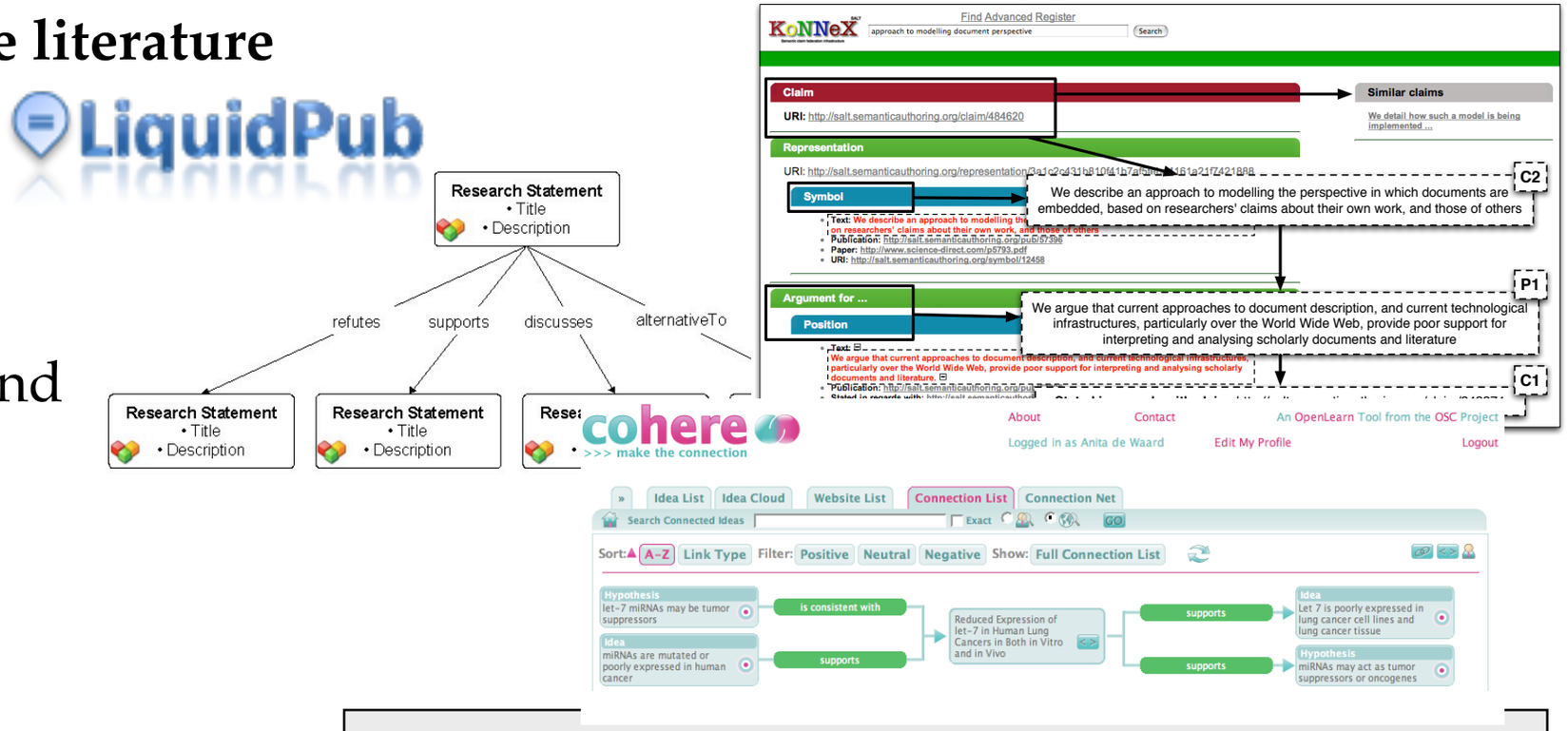

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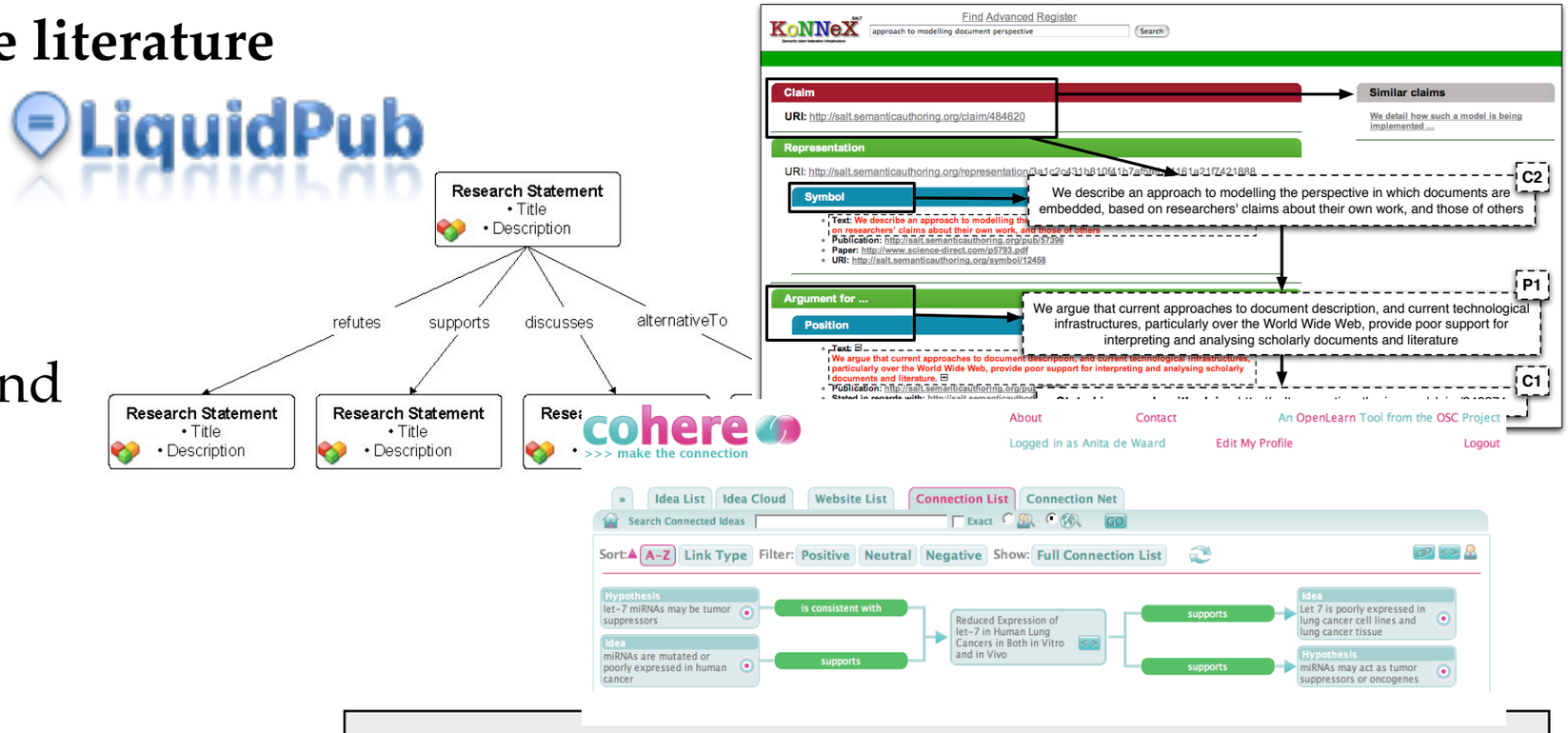

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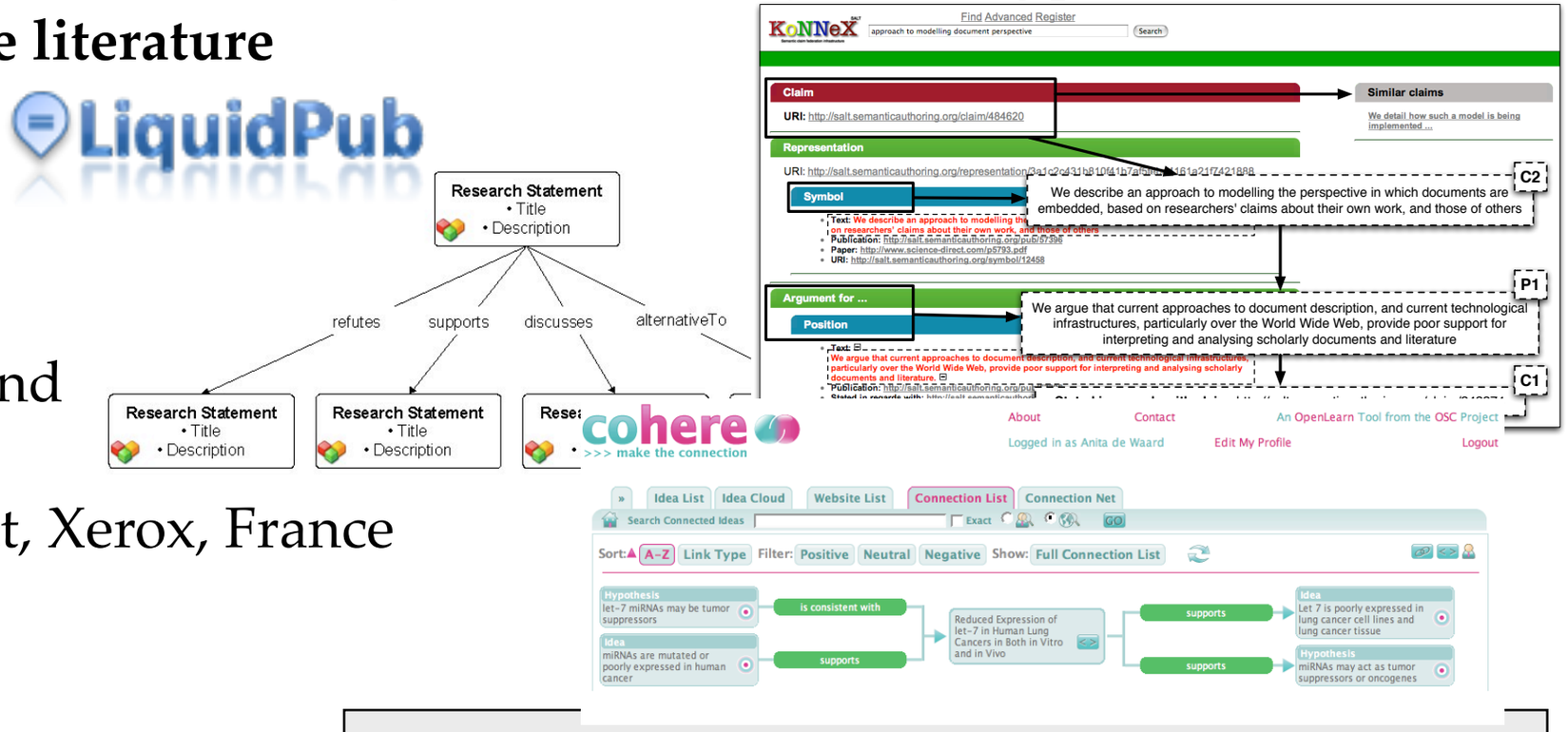

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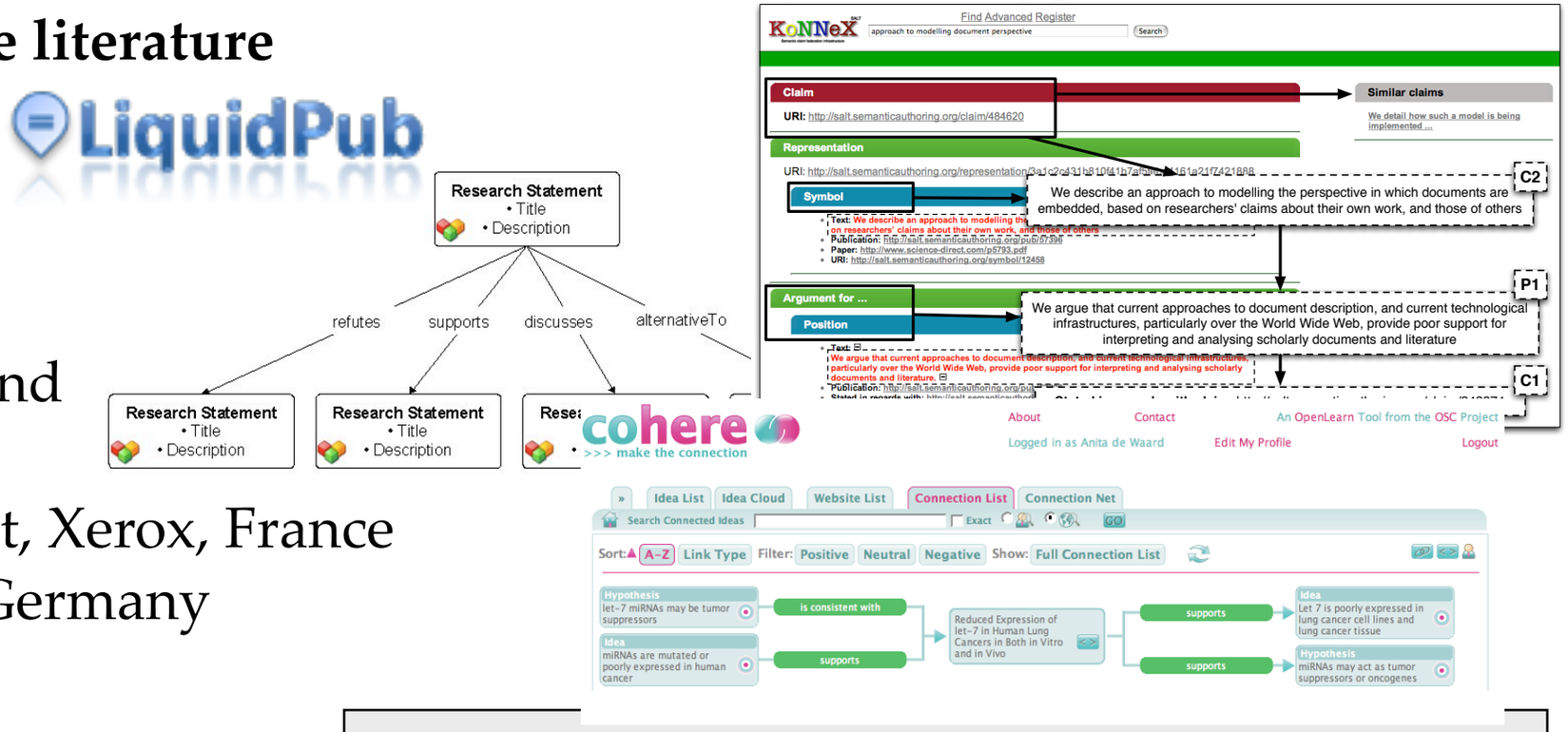

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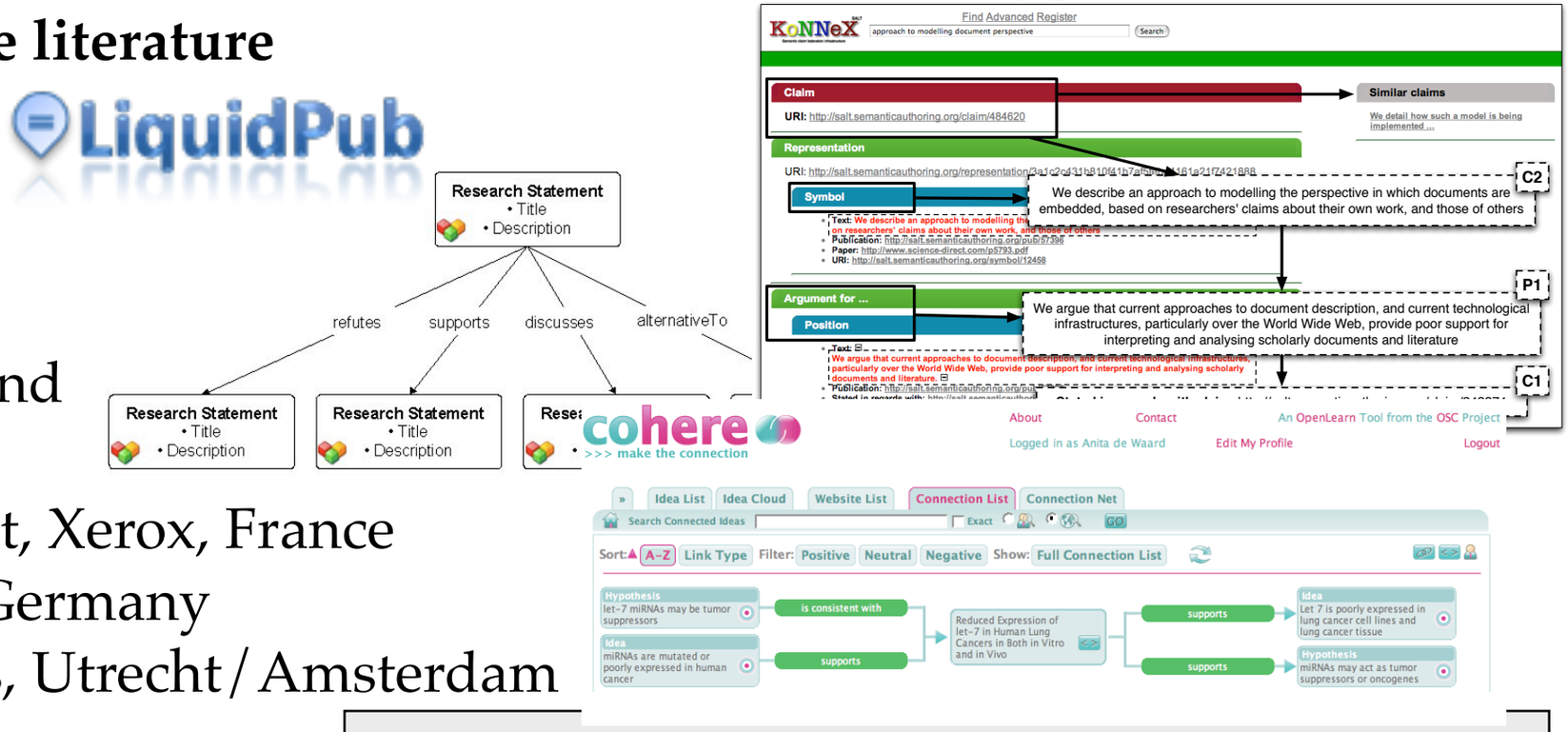

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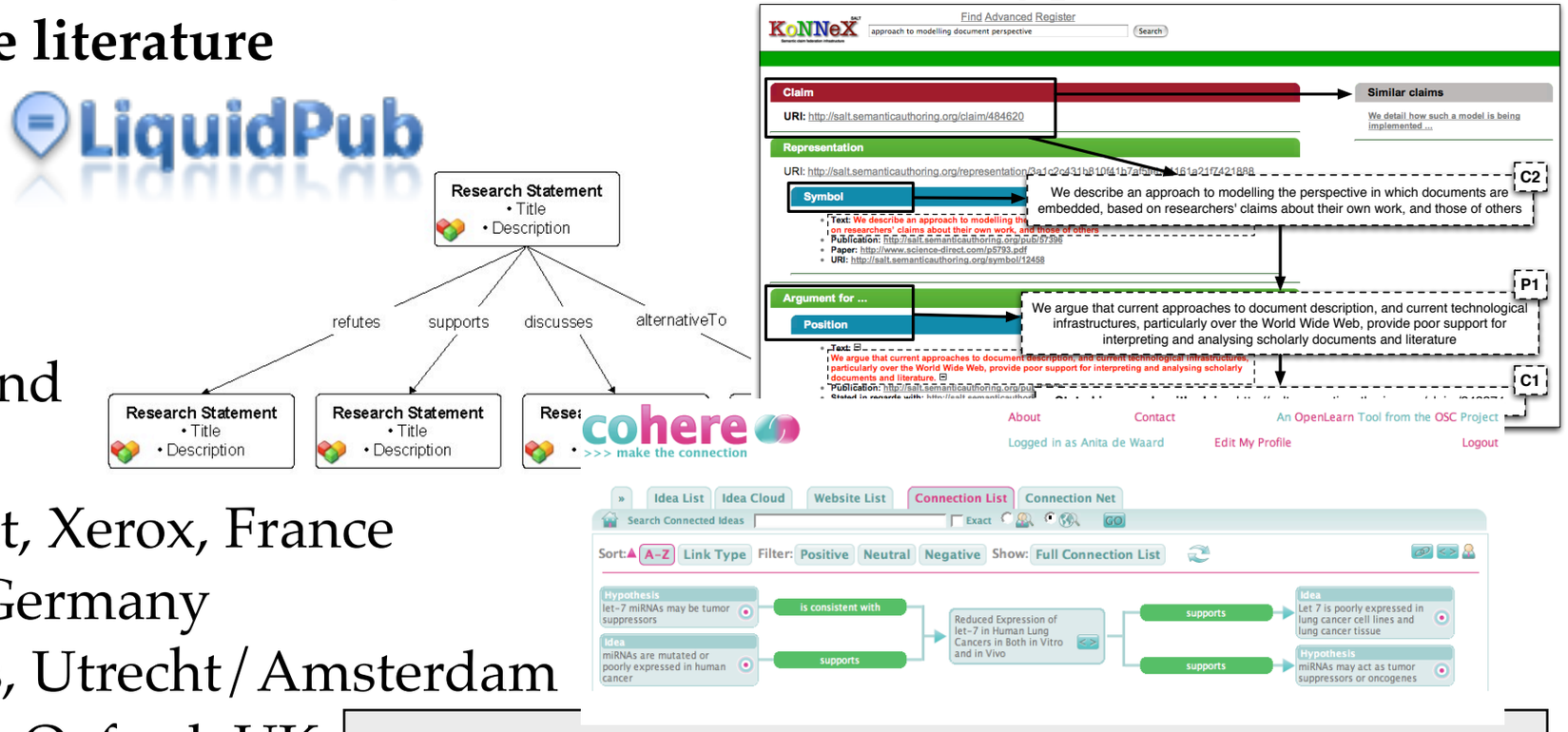

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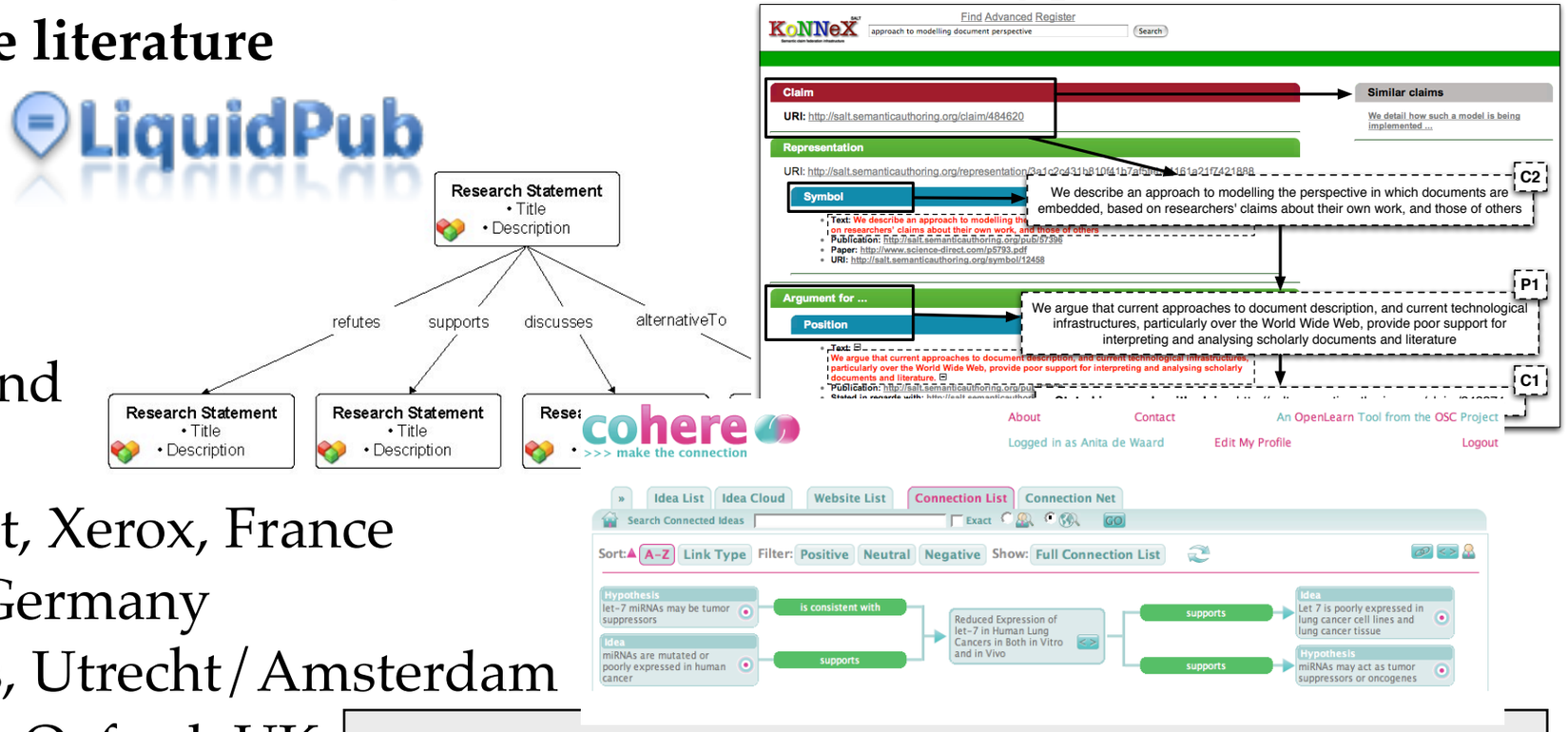

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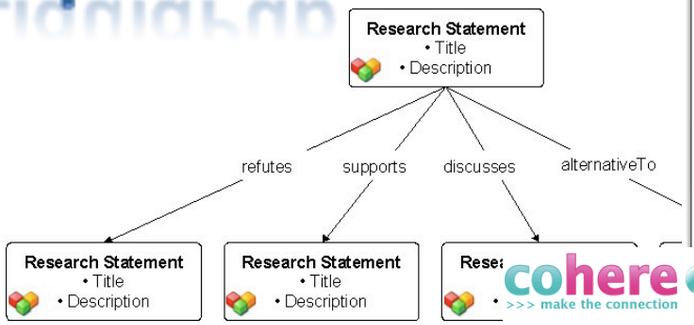

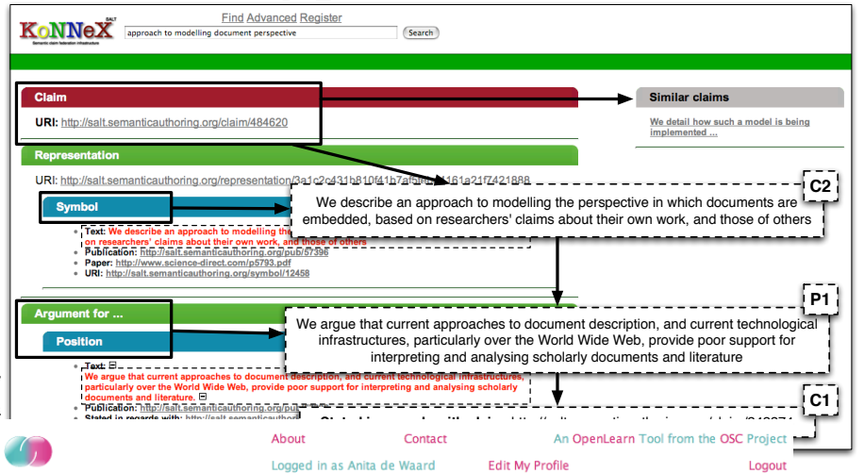

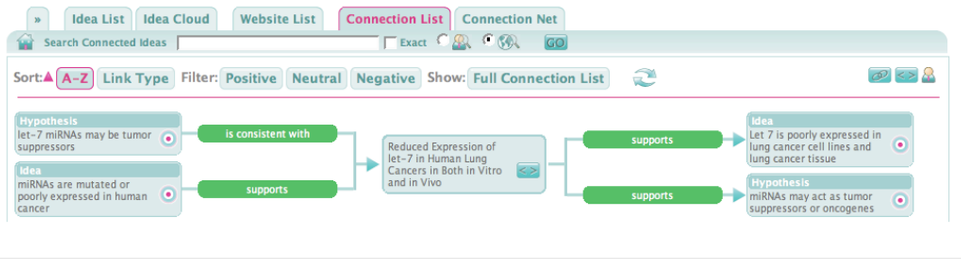

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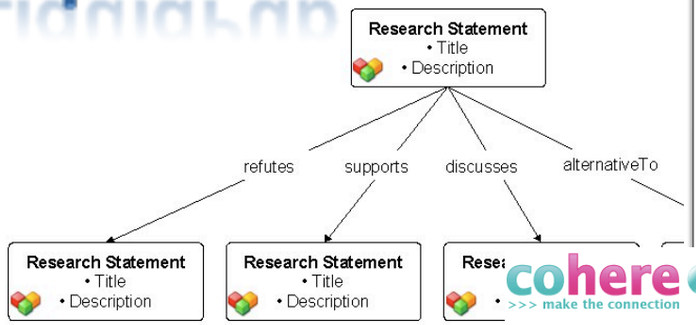

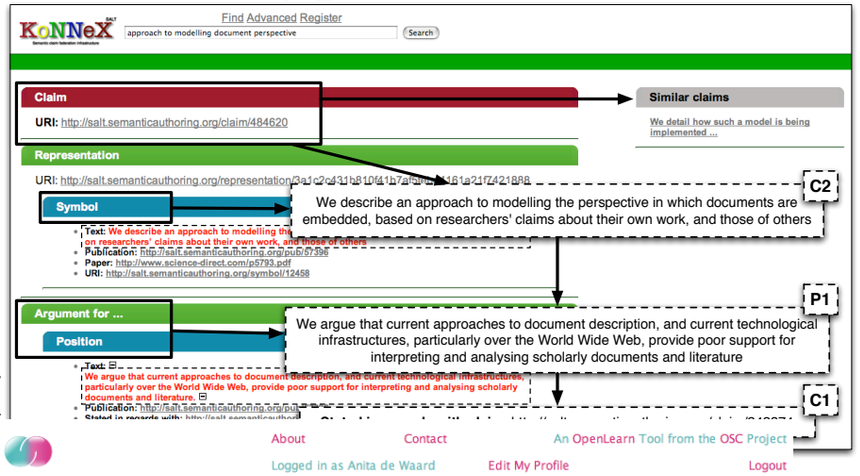

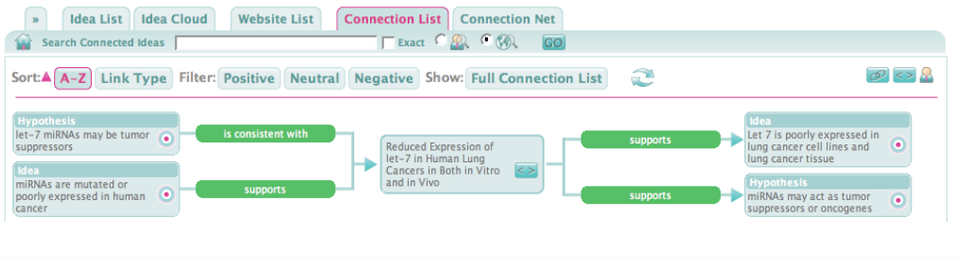

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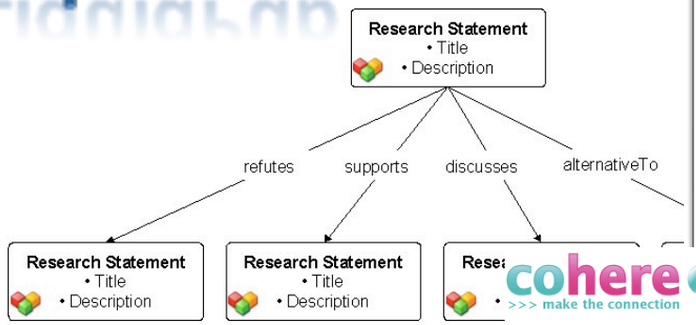

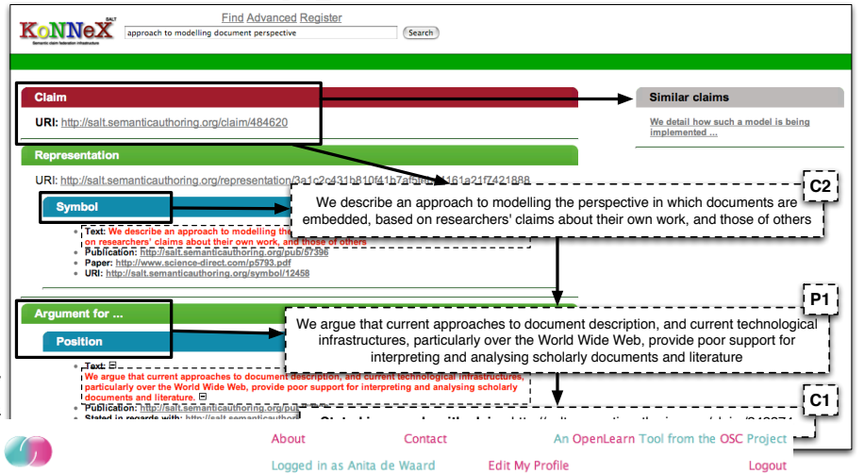

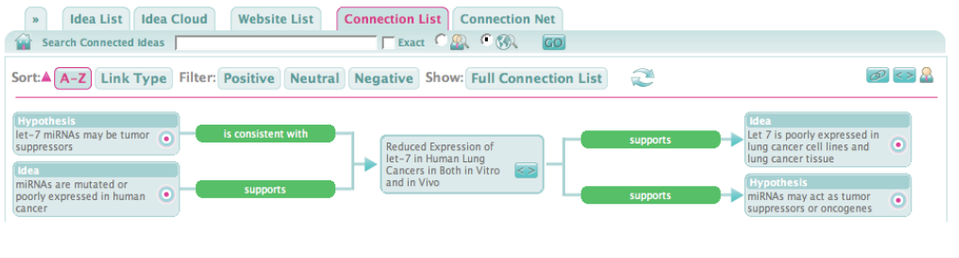

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Collaborations

ELSEVIER
The Elsevier
Grand Challenge
Knowledge Enhancement in the Life Sciences

The Elsevier Grand Challenge

Knowledge Enhancement in the Life Sciences

Scope: Tools and processes to:

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Scope: Tools and processes to:

- Improve the process of creating, reviewing and editing scientific content

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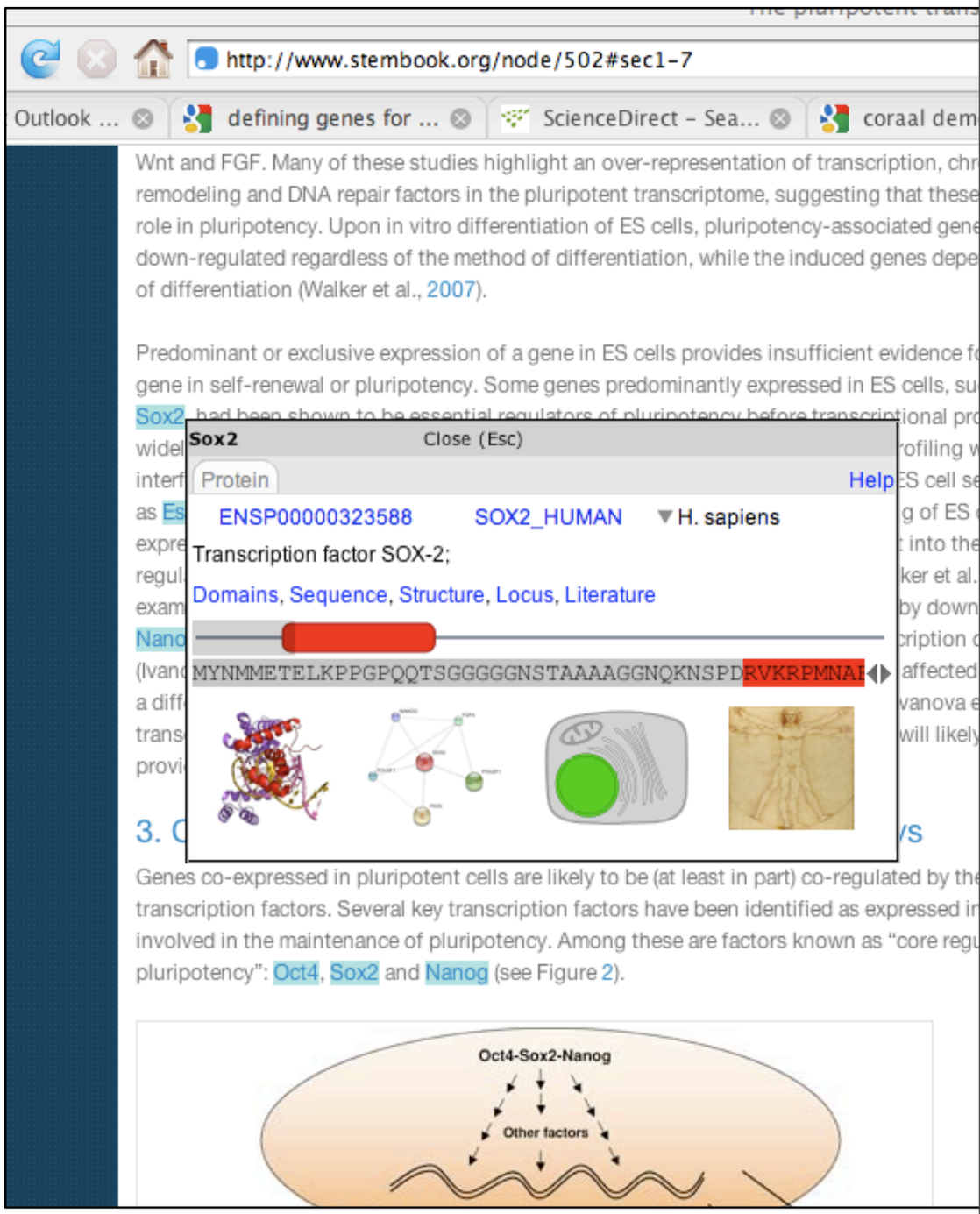

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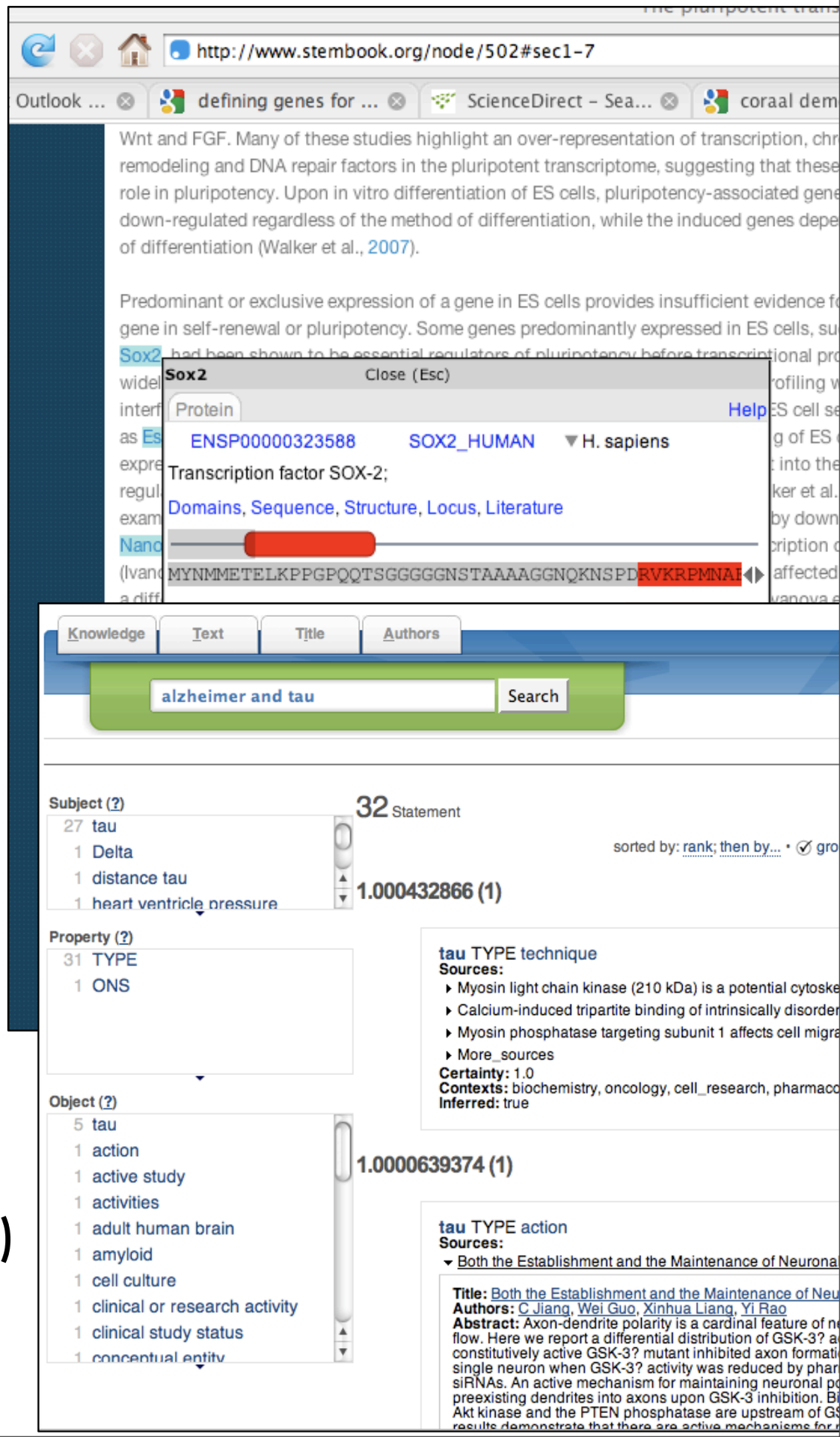

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Semantic web:
- Tim Clark (Harvard)
- Siegfried Handschuh (DERI)

Computational Linguistics:
Eduard Hovy (ISI, USC)
Robert Dale (Sydney)

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New ways of communicating science requires new ways of communicating!

Conference registrants form a community - the website is their meeting place

The physical conference is a synchronous manifestation of a subset of the community

The conference starts with the website and continues as long as the participants want it to