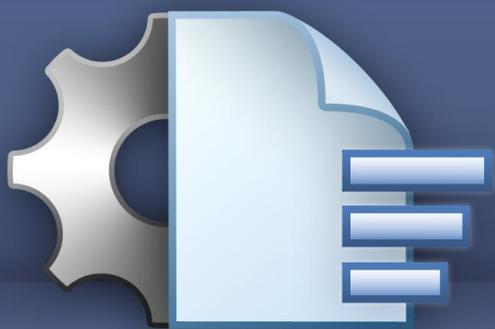


The Thomson / Collexis Knowledge Dashboard

powered by the Web of Science



Quick Reference Guide for the TC Alzheimer Dashboard

Authors: Lenerl Sharp, Christian Herzog

Date: 10.07.2008

Version: 1.5

Knowledge Dashboard, powered by *Web of Science*,

The Thomson Collexis Dashboard is the premier vertical search tool available today – combining the world renowned data from Web of Science with the powerful Collexis Knowledge Dashboard.

In this example, the Thomson Collexis Knowledge Dashboard (Alzheimer) populated with PubMed based data allowing the user to Explore MeSH concepts in the field Alzheimer. By browsing the thesaurus tree you can explore all concepts used in the context of Alzheimer in a more structured way. After choosing a concept you can instantly select between the most important and emerging experts, as well as publications and patents.

The Thomson Collexis Knowledge Dashboard is a software solution that enables investigators in the life sciences the ability to analyze large numbers of papers efficiently through visual data-mining techniques. The thesaurus used in the background is the 2007 version of Medical Subject Headings (MeSH).

Introduction

Thomson Collexis Dashboards (TCD) are tailored to a specific area of biomedical investigation allowing for intuitive, visual queries that bring back highly relevant results.

TCD unleashes the ability to search by knowledge concept, freeing researchers from the frustrating search-engine paradigm, and thus allowing them to make unexpected concept associations that might never emerge via standard search approaches.

1. Thought leaders, research hubs, and centers of excellence in a given research area can be identified in order to hone in on potential collaborators located across town or across the globe.
2. Discover emerging or declining trends that lend insight to current research directions and can inform decisions on the best approaches to acquiring new research funding.
3. Finally, hypothesis generation is facilitated by proactively suggesting concept relationships that have not yet appeared in the literature but are highly likely to appear in the future.

The dashboard approach is "top-down" – making it easy for researchers to whittle at an extensive list of references on a single topic (in this case Alzheimer Disease) down to specific, directly relevant articles. Users can browse and filter literature by keyword, concept, expert, journal, or location. Researchers can use the TCD to identify emerging thought leaders, top publication outlets, or research hubs -- as well as track trends and discover emerging concepts and relationships.

Definition of publications to be integrated:

By using an initial "template query," the user defines which publications should be integrated. This differs from the standard search approach in as much as the challenge is not to define a query which limits the resulting amount of publications as much as possible but to build a query which integrates every possibly relevant publication for the thematic background. For Example, if the user is interested in drugs used for treating Alzheimer Disease, then the correct query is Alzheimer Disease and all the relevant synonyms. The publications relevant to the query are then automatically integrated in the TCD for Alzheimer Disease. The drugs used for treating the Disease can subsequently be explored within the Dashboard.

These step by step instructions can be applied to any vertical and any TCD. The difference will be the actual results.

Step 1: Signing in

Go to: www.thomson.collexis.com/alzheimer

Customers can

1. Request a Trial from the home page
2. View the subject area: Alzheimer Disease
3. View number of publications available: 96,207
4. View number of experts available: 114,629

Analyze any Thomson Web of Science vertical from whatever vantage point of interest to the investigator. This can be Scientific literature reviews, biomedical expertise location or knowledge discovery all in a single dashboard.

<http://thomson.collexis.com/alzheimer/index.asp>

Knowledge Dashboard

Powered by Web of Science



Request a Trial

Subject: **Alzheimer's Disease**

Publications: **96707**

Experts: **114629**

Release Date: 21 April 2008

Username

Password

Get the right information at the right place and time!



Explore instead of searching!

Analyze all publications for a disease or a drug in a sophisticated text mining application – all possible through point-n-click visual data-mining - no more search boxes!



Locate scientific expertise anywhere in the world!

Explore all expert profiles of scientists who have published on the disease or drug topic featured in a given dashboard!



Discover research trends and new knowledge!

Get a clear overview of recent trends in biomedical research as well as a window into the future of scientific investigation through a statistical analysis of currently unpublished hypotheses that will likely appear in journals in the near future!



You deep-dive add-on to WoS!

Analyze any Thomson Scientific Web of Science vertical from whatever vantage point is of interest to you, be it scientific literature review, biomedical expertise location or knowledge discovery in a single integrated dashboard!

NEWS

> Thomson Scientific and Collexis present first joint product

Thomson Scientific and Collexis present the first text mining solution combining the Web of Science data with the Collexis fingerprint technology. The TSI/Collexis Dashboard is a text mining tool to analyze topic areas like diseases or drugs proving expert profiles, trend information and powerful knowledge discovery functionalities.

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Enter your username and password and click on the “Login” button. The following user interface will appear:

The screenshot displays the Knowledge Dashboard interface. At the top, there is a blue header with the text "Knowledge Dashboard" and "Powered by Web of Science". To the right of the header are the logos for Thomson Reuters and Collexis, along with a "LOG OUT" link. Below the header is a navigation bar with tabs for "Concepts", "Experts", "Journals", "Locations", "Trends", and "Knowledge Discovery". The "Concepts" tab is selected, and the "MeSH" section is active. On the left side, there is a search bar with a "search" button and a list of categories with expandable icons: Diseases (76763), Chemicals and Drugs (59340), Anatomy (45476), Analytical, Diagnostic and Therapeutic Techniques and Equipment (43436), Health Care (38858), Organisms (27203), and Biological Sciences (57999). The main content area on the right is titled "MeSH" and contains the following text: "Explore MeSH concepts", "By browsing the left hand thesaurus tree you can explore all concepts used in the context of Alzheimer's Disease in a structured way.", "After choosing a concept you can instantly select between the most important and emerging experts, as well as publications and patents.", and "The thesaurus used in the background is the 2007 version of Medical Subject Headings (MeSH). The U.S. National Library of Medicine has developed the MeSH Thesaurus and keeps it up-to-date and puts the data at disposal."

Step 2: Browse through publications in the field of Alzheimer Disease by using the Mesh or Chemical thesaurus.

Use the Mesh tree-structure you see in the screenshot below to explore all publications in the field of Alzheimer Disease and Amyloid beta-Protein Precursor by doing the following: Open the tree-structure by clicking on “chemicals and drugs” (59,340 articles) then click on “Amino Acids, Peptides, and Proteins”(41,868 articles), lookup Amyloid beta-Protein Precursor (5,550 articles) and click on that. The following screen will pop-up:

The screenshot displays the Knowledge Dashboard interface. At the top, it says "Knowledge Dashboard Powered by Web of Science" with logos for Thomson Reuters and Collaxis. Below the navigation tabs (Concepts, Experts, Journals, Locations, Trends, Knowledge Discovery), the "MeSH" section is active. On the left, a tree structure shows "Chemicals and Drugs (59340)" expanded to "Amino Acids, Peptides, and Proteins (41868)". The main content area shows "Amyloid beta-Protein Precursor" with 5550 publications. A "Publication Timeline" bar chart shows the number of publications per year from 1996 to 2008. Below the timeline are tabs for Profiles, Publications, Experts, Journals, and Locations. At the bottom, a "MeSH" section lists related concepts under "Disorders" and "Procedures".

Year	Publications
96	1142
97	263
98	280
99	304
00	296
01	328
02	331
03	395
04	371
05	435
06	380
07	448
08	416

MeSH Concepts:

- Disorders:** Senile Plaques, Disease, Down Syndrome, Neuroblastoma, Brain Diseases, Neurofibrillary Tangles, Amyloidosis, Injuries, Abnormalities, Stress, Alzheimer Disease, Strains, Ischemia, Oxidative Stress, Dementia
- Procedures:** Cell Culture Techniques, Therapeutics, Treatment, Blotting, Western, Staining, Cloning, Observation, Role Playing, Polymerase Chain Reaction, Testing, Immunoblotting, Transfection, Immunoprecipitation, Screening, Pulse

You will see that 5,550 publications on Alzheimer Disease and Amyloid beta-Protein Precursor are found and you immediately can go in “depth” by clicking on the blue highlighted relevant biomedical concepts that appear within the publications on Alzheimer Disease and Amyloid beta-Protein Precursor.

The most relevant concepts are on top. E.g.: In this case, the most relevant concept found in the field of Disorders is “Senile Plaques”. You also see a timeline of publications, showing the number of publications published on Alzheimer Disease and Amyloid beta Protein Precursor in each year.

Clicking on “Publications” will open a new screen for you which will show you all 5,550 publications found on Alzheimer Disease and Amyloid beta-Protein Precursor. The following screen will appear:

The screenshot displays the Knowledge Dashboard interface for "Amyloid beta-Protein Precursor" (5550 Publications). The dashboard includes a navigation menu with "Concepts", "Experts", "Journals", "Locations", "Trends", and "Knowledge Discovery". The "MeSH" section is active, showing a search bar and a list of categories under "Diseases (76763)" and "Chemicals and Drugs (59340)".

The "Publication Timeline" shows a bar chart of publications from 1996 to 2008. The data points are: 1142 (96), 263 (97), 280 (98), 304 (99), 296 (00), 328 (01), 331 (02), 395 (03), 371 (04), 435 (05), 380 (06), 448 (07), 416 (08), and 161 (09).

The "Publications" tab is selected, showing a list of publications. The list includes:

- 1. GOATE A; CHARTIERHARLIN MC; MULLAN M; BROWN J; CRAWFORD F; FIDANI L; GIUFFRA L; HAYNES A; IRVING N; JAMES L; MANT R; NEWTON P; ROOKE K; ROQUES P; TALBOT C; PERICAKVANCE M; ROSES A; WILLIAMSON R; ROSSOR M; OWEN M; HARDY J
SEGREGATION OF A MISSENSE MUTATION IN THE AMYLOID PRECURSOR PROTEIN GENE WITH FAMILIAL ALZHEIMERS-DISEASE
NATURE 1991;349:704-706.
WoS Record | Citations: 2209
- 2. Selkoe DJ
Alzheimer's disease: Genes, proteins, and therapy
PHYSIOLOGICAL REVIEWS 2001;81:741-766.
WoS Record | Citations: 1394
- 3. GAMES D; ADAMS D; ALESSANDRINI R; BARBOUR R; BERTHELETTE P; BLACKWELL C; CARR T; CLEMENS J; DONALDSON T; GILLESPIE F; GUIDO T; HAGOPIAN S; JOHNSONWOOD K; KHAN K; LEE M; LEIBOWITZ P; LIEBERBURG I; LITTLE S; MASLIAH E; MCCONLOGUE L; MONTOYAZAVALA M; MUCKE L; PAGANINI L; PENNIMAN E; POWER M; SCHENK D; SEUBERT P; SNYDER B; SORIANO F; TAN H; VITALE J; WADSWORTH S; WOLOZIN B; ZHAO J
ALZHEIMER-TYPE NEUROPATHOLOGY IN TRANSGENIC MICE OVEREXPRESSING V717F BETA-AMYLOID PRECURSOR PROTEIN
NATURE 1995;373:523-527.
WoS Record | Citations: 1338

Here you can:

1. Select all publications
2. Save to Endnote
3. Sort by Citation/date
4. View Publication by Year and total number of citations
5. View journals and the WoS record

Step 3: Filtering:

You can filter these publications by journals and/or publication type by clicking on the “journals” tab in the top of the screen. The following screen will appear:

In this screen you are able to filter through these publications “journals” by clicking on a specific journal . The color coding indicates whether the journal has a high (red), middle (yellow) or low (green) journal impact factor

The screenshot displays the Knowledge Dashboard interface. At the top, it says "Knowledge Dashboard Powered by Web of Science" and includes logos for Thomson Reuters and Collaxis. A navigation bar contains tabs for Concepts, Experts, Journals, Locations, Trends, and Knowledge Discovery. Below this is a MeSH search bar. The main content area is titled "Amyloid beta-Protein Precursor" with 5550 publications. A "Publication Timeline" bar chart shows the number of publications per year from 1996 to 2008. Below the timeline are tabs for Profiles, Publications, Experts, Journals, and Locations. The "Journals" tab is active, showing a list of journals with their JIF values and approximate publication counts.

Year	Publications
< 96	1142
96	263
97	280
98	304
99	296
00	328
01	331
02	395
03	371
04	435
05	380
06	448
07	416
08	161

Journal	JIF	Count
SCIENCE	30.028	about 18
NATURE MEDICINE	28.588	about 13
NATURE	26.681	about 26
NEURON	13.894	about 22
TRENDS IN NEUROSCIENCES	13.494	about 11
JOURNAL OF CELL BIOLOGY	10.152	about 19
EMBO JOURNAL	10.086	about 15
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	9.643	about 92
HUMAN MOLECULAR GENETICS	8.099	about 15

Step 4: Looking for experts

In addition to browsing through relevant publications in the field of Alzheimer Disease, the Thomson Collexis Dashboard can provide you with the most relevant experts in various areas of Alzheimer Disease. You can return to the starting point by clicking the “concepts” button. And by clicking on the “expert” button the following screen will appear.

The screenshot displays the Thomson Collexis Knowledge Dashboard interface. At the top, it features the 'Knowledge Dashboard' title, 'Powered by Web of Science', and logos for Thomson Reuters and Collexis. A navigation bar includes 'Concepts', 'Experts', 'Journals', 'Locations', 'Trends', and 'Knowledge Discovery'. The 'MeSH' section on the left contains a search bar and a tree view of categories such as 'Diseases (76763)' and 'Chemicals and Drugs (59340)'. The main content area is titled 'Amyloid beta-Protein Precursor' with 5550 publications. It includes a 'Publication Timeline' bar chart showing publication counts from 1996 to 2008. Below this are tabs for 'Profiles', 'Publications', 'Experts', 'Journals', and 'Locations'. The 'Experts' tab is active, showing three columns of expert profiles: 'Currently active Experts', 'Experts > 290 publications', and 'All Experts'. Each profile lists the expert's name, publication count, times cited, and average times cited.

Expert	Publications	Times Cited	Average Times Cited
Currently active Experts			
7216 Pers - since 2003			
Hyman B	about 365	18864	51.682
Mucke L	about 72	5861	81.403
Maslah E	about 324	18636	57.519
Lahiri D	about 140	2340	16.714
Suzuki T	about 89	2408	27.056
Youdim M	about 90	3348	37.2
Selkoe D	about 310		
Experts > 290 publications			
24 Pers			
Hyman B	about 365	18864	51.682
Beyreuther K	about 355	25231	71.073
Masters C	about 381	22768	59.759
Selkoe D	about 310	40100	129.355
Maslah E	about 324	18636	57.519
Lee J	about 369	5951	16.127
Kim S	about 320		
All Experts			
8367 Pers			
Hyman B	about 365	18864	51.682
Beyreuther K	about 355	25231	71.073
De Strooper B	about 87	6044	69.471
Masters C	about 381	22768	59.759
Suh Y	about 107	1316	12.299
Selkoe D	about 310	40100	129.355
Maslah E	about 324	18636	57.519

At this point, you can either browse through experts in the field of Alzheimer Disease by using the left hand tree structure or search for experts by name simply by clicking the “search by name” button and typing in the name of the expert you are looking for. The Thomson Collexis Dashboard includes tabs for 3 kinds of experts:

1. Currently Active Experts
2. Experts with Publications greater than 290
3. All Experts

The screenshot displays the Thomson Collexis Knowledge Dashboard interface. At the top right, there is a 'LOG OUT' link. The main header features the 'Knowledge Dashboard' title, 'Powered by Web of Science', and logos for Thomson Reuters and Collexis. Below the header, a navigation bar includes tabs for 'Concepts', 'Experts' (which is selected), 'Journals', 'Locations', 'Trends', and 'Knowledge Discovery'. Under the 'Experts' tab, there are sub-tabs for 'Experts by Times Cited', 'Emerging Experts', '> 120 Publications', '> 290 Publications', and 'All Experts'. The 'Experts by Times Cited' sub-tab is active, showing a search bar and a list of experts with their names and 'Times Cited' counts. The main content area on the right is titled 'Experts by Times Cited' and contains the text: 'Explore experts who are working. By browsing the left hand thesaurus tree you can select between experts who have published more than 1 paper.'

LOG OUT

Knowledge Dashboard

Powered by Web of Science

THOMSON REUTERS Collexis

Concepts **Experts** Journals Locations Trends Knowledge Discovery

Experts by Times Cited Emerging Experts > 120 Publications > 290 Publications All Experts

- o Selkoe D - Times Cited: 40100
- o Beyreuther K - Times Cited: 25231
- o Roses A - Times Cited: 24500
- o Mattson M - Times Cited: 23704
- o Hardy J - Times Cited: 23046
- o Masters C - Times Cited: 22768
- o Lee V - Times Cited: 21341
- o Tanzi R - Times Cited: 21144
- o Trojanowski J - Times Cited: 20190
- o Morris J - Times Cited: 19938
- o PericakVance M - Times Cited: 19511
- o Hyman B - Times Cited: 18864
- o Masliah E - Times Cited: 18636
- o Saunders A - Times Cited: 17098
- o Smith M - Times Cited: 16904
- o Cummings J - Times Cited: 16498
- o Perry G - Times Cited: 16293
- o Cotman C - Times Cited: 16198
- o Dickson D - Times Cited: 15995
- o Goedert M - Times Cited: 15974
- o Lieberburg I - Times Cited: 15863
- o Winblad B - Times Cited: 15157
- o Younkin S - Times Cited: 15028
- o McGeer P - Times Cited: 14108
- o Price D - Times Cited: 13735
- o Petersen R - Times Cited: 13588
- o Strittmatter W - Times Cited: 13180
- o Thal L - Times Cited: 13159
- o Mayeux R - Times Cited: 13081
- o Schmechel D - Times Cited: 12999

Experts by Times Cited

Explore **experts who are working.**

By browsing the left hand thesaurus tree you can select between experts who have published more than 1 paper.

Step 5: Locations

If your interest is in a geographical locations where research on Alzheimer Disease is being conducted and you wish to conduct an international study or find experts in Alzheimer Disease research via a certain country, state or city, the “Locations” functionality of the TC Alzheimer Disease Dashboard will be very useful to you.

Return to the “starting point” by clicking the “Concepts” button. Click on the “Locations” button in the left of your screen and the following screen will appear.

The screenshot shows the 'Knowledge Dashboard' interface. The top navigation bar includes 'Concepts', 'Experts', 'Journals', 'Locations' (selected), 'Trends', and 'Knowledge Discovery'. Below this, there are sub-tabs for 'Locations' and 'Top Locations'. The main content area is titled 'Locations' and contains the following text: 'Explore the most relevant Locations. By browsing the left hand Locations list you can select between Locations.'

The left sidebar displays a list of countries with the number of publications in parentheses next to them:

- Algeria (2)
- Argentina (167)
- Armenia (4)
- Australia (1484)
- Austria (689)
- Belgium (748)
- BOLIVIA (1)
- Bosnia & Herceg (6)
- Brazil (497)
- Bulgaria (35)
- Canada (3279)
- Chile (172)
- Colombia (51)
- Croatia (51)
- Cuba (48)
- Cyprus (4)
- Czech Republic (103)
- CZECHOSLOVAKIA (3)
- Denmark (328)
- Dominican Rep (1)
- Ecuador (2)
- Egypt (20)
- England (5137)
- Estonia (17)
- Ethiopia (1)
- FED REP GER (35)
- Finland (740)
- France (2751)
- GER DEM REP (3)
- Germany (4088)

You can see all countries where research on Alzheimer Disease is being conducted and the number of publications that have been published in these countries. You are able to drill down research locations from country to city by using the tree structure on the left side of the screen. It is possible to look at the locations either in alphabetic order (as in the screen above) or requested them by the number of publications that have been published (click on “Top Locations” in the top of the screen).

You can see the Cities found in the affiliation of the publications

Knowledge Dashboard
Powered by *Web of Science*

THOMSON REUTERS | Collaxis

Concepts | Experts | Journals | **Locations** | Trends | Knowledge Discovery

Locations | Top Locations

London 1654 Publications

Publication Timeline

374	66	78	69	87	85	122	119	106	133	104	128	147	36
< 96	96	97	98	99	00	01	02	03	04	05	06	07	08

Profiles | Publications | Experts | Journals | Locations

MeSH

<p>Disorders</p> <ul style="list-style-type: none"> Atrophy Dementia Parkinson Disease Supranuclear Palsy, Progressive Disease Frontotemporal Lobar Degeneration Depression Amyloidosis Craniocerebral Trauma Dementia, Vascular Down Syndrome Syndrome Motor Neuron Disease Tauopathies Semantic Dementia Huntington Disease 	<p>Procedures</p> <ul style="list-style-type: none"> Treatment Testing Research Magnetic Resonance Imaging Diagnosis Therapeutics fMRI Positron-Emission Tomography Magnetic Resonance Spectroscopy Hormone Replacement Therapy Injections Observation Early Diagnosis Reading Primary Health Care Rehabilitation
--	--

Left Panel (Country List):

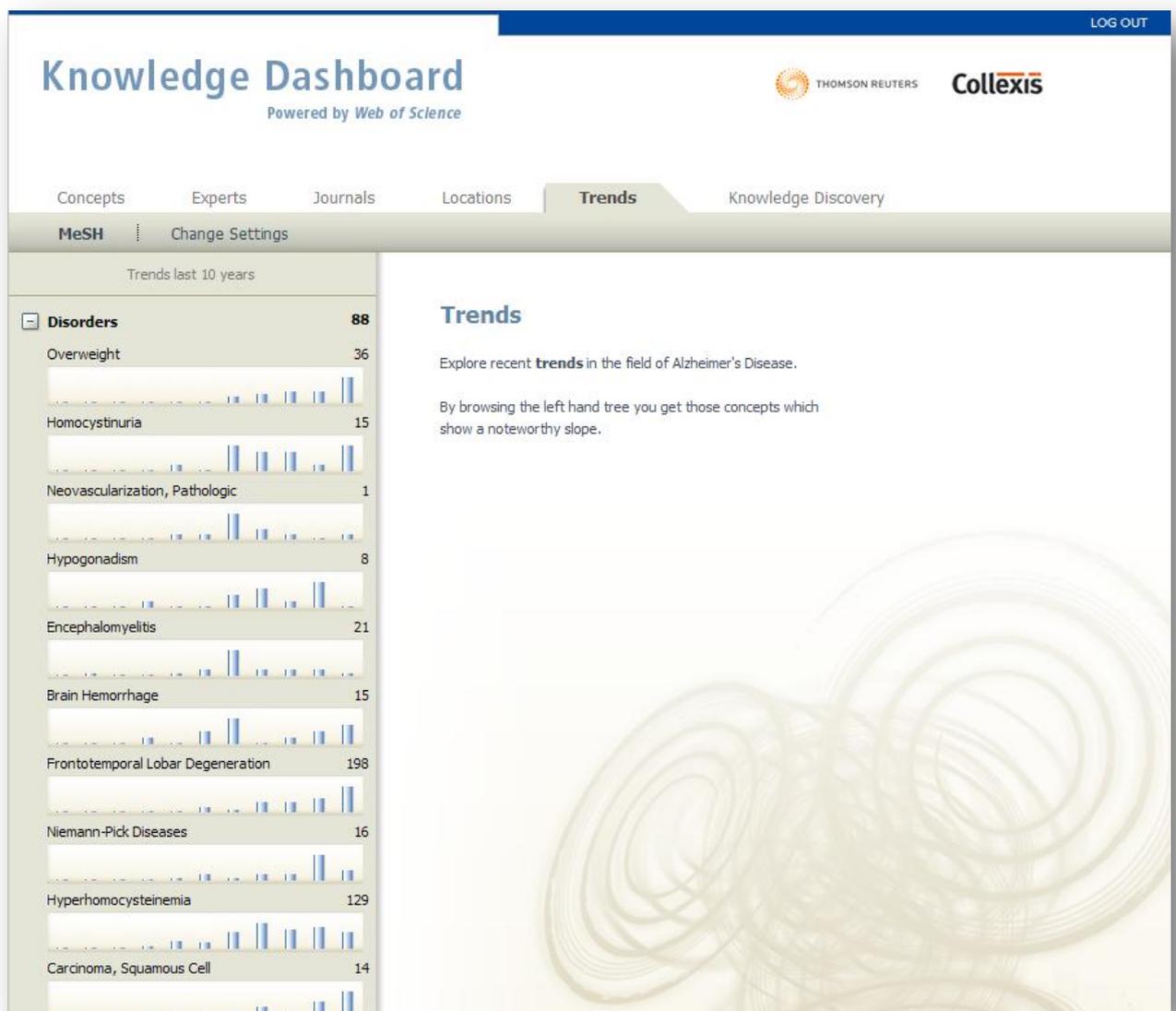
- Algeria (2)
- Argentina (167)
- Armenia (4)
- Australia (1484)
- Austria (689)
- Belgium (748)
- BOLIVIA (1)
- Bosnia & Herceg (6)
- Brazil (497)
- Bulgaria (35)
- Canada (3279)
- Chile (172)
- Colombia (51)
- Croatia (51)
- Cuba (48)
- Cyprus (4)
- Czech Republic (103)
- CZECHOSLOVAKIA (3)
- Denmark (328)
- Dominican Rep (1)
- Ecuador (2)
- Egypt (20)
- England (5137)
 - Abingdon (6)
 - Amersham (2)
 - Ascot (2)
 - Barnsley (2)
 - Basingstoke (1)
 - Bath (34)

Step 6: Trends

By using statistical routines, the TCD is able to present you with biomedical concepts which are increasingly mentioned together with Alzheimer Disease. This functionality of the Dashboard allows you to uncover new trends that may have previously been undetected.

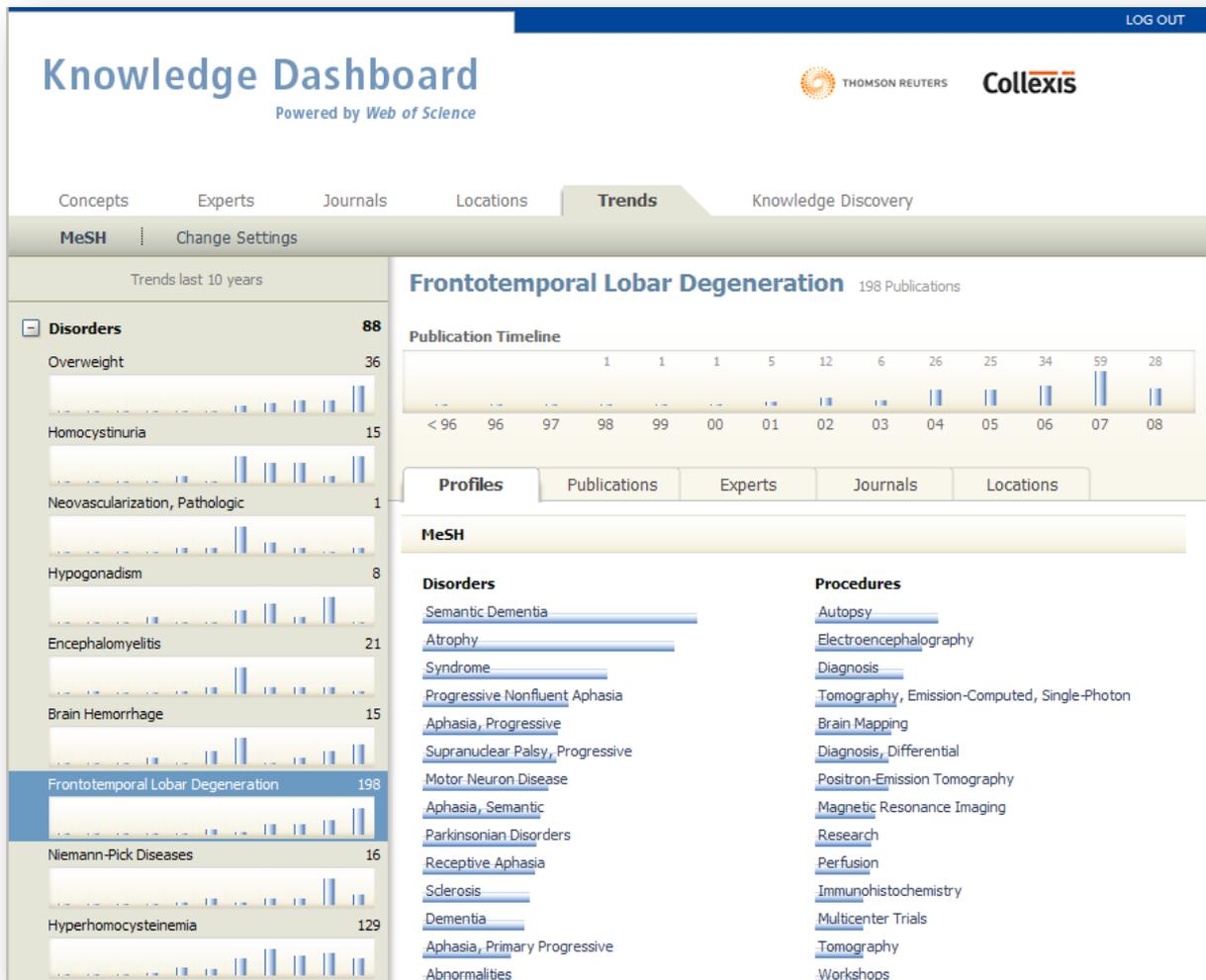
Return to the starting point by clicking the “Concepts” button. Click on the “trends. In the following screen you are able to look at trends in the field of disorders, Chemicals & drugs, Anatomy, or physiology and procedures

Click on “Disorders” and a screen which shows you the disorders that are increasingly mentioned in relation to Alzheimer Disease in the last 10 years will open.



In the screen above you are able to see the trends in the area of disorders and Alzheimer Disease. Behind every Disease you will see a number. This number indicates the number of publications in which Alzheimer Disease and this specific disorder has co-occurred.

Clicking on a specific disorder, e.g. Lobar Degeneration will show you the following screen:



Like mentioned earlier in this demo script, you can go in “depth” by clicking on the blue highlighted relevant biomedical concepts that were found within the publications on Alzheimer Disease and Lobar Degeneration.

Clicking on the “Publications” button in top of the screen will get you to the 198 publications found on Alzheimer Disease and frontotemporal Lobar Degeneration.

Knowledge Dashboard
Powered by Web of Science

LOG OUT

THOMSON REUTERS Collexis

Concepts Experts Journals Locations **Trends** Knowledge Discovery

MeSH Change Settings

Trends last 10 years

Disorders 88

- Overweight 36
- Homocystinuria 15
- Neovascularization, Pathologic 1
- Hypogonadism 8
- Encephalomyelitis 21
- Brain Hemorrhage 15
- Frontotemporal Lobar Degeneration 198**
- Niemann-Pick Diseases 16
- Hyperhomocysteinemia 129
- Carcinoma, Squamous Cell 14

Frontotemporal Lobar Degeneration 198 Publications

Publication Timeline

< 96	96	97	98	99	00	01	02	03	04	05	06	07	08
			1	1	1	5	12	6	26	25	34	59	28

Profiles **Publications** Experts Journals Locations

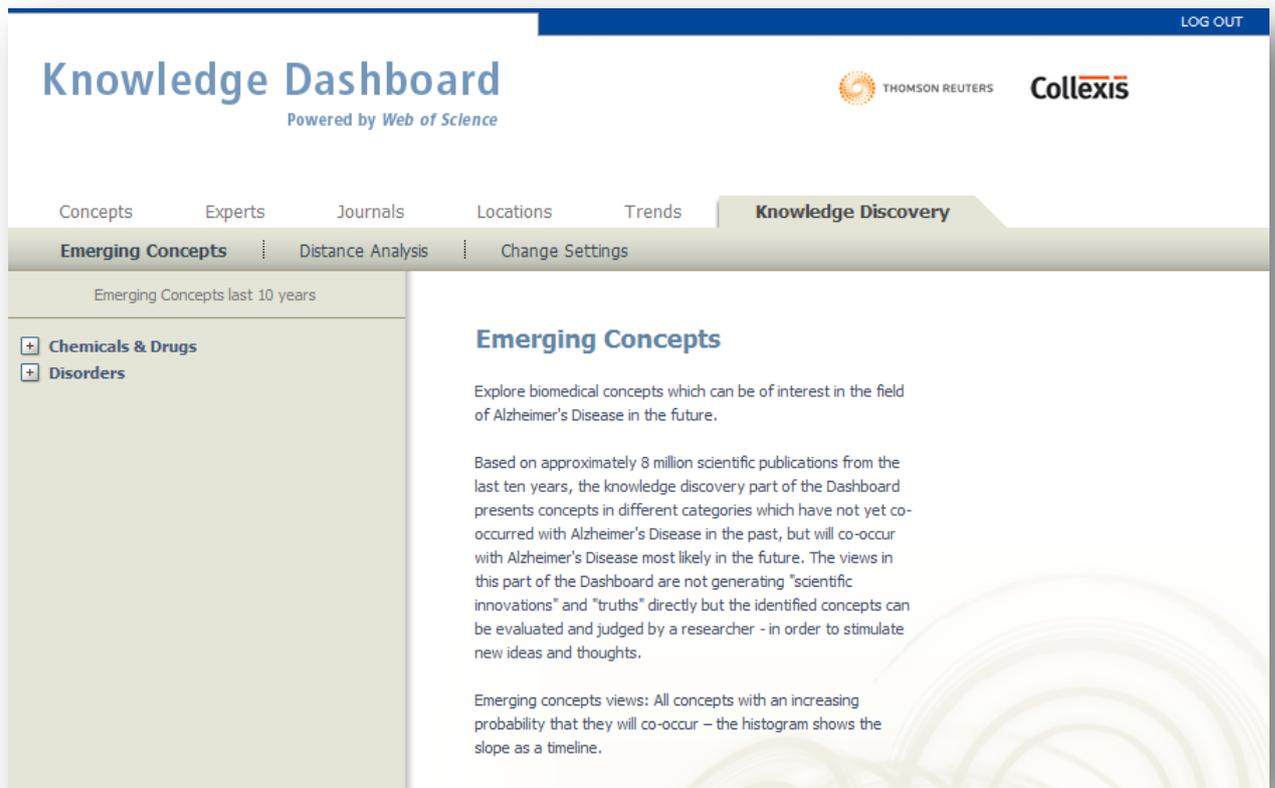
Select All | to Endnote | sort by Citation | Citations

1. Neary D; Snowden JS; Gustafson L; Passant U; Stuss D; Black S; Freedman M; Kertesz A; Robert PH; Albert M; Boone K; Miller BL; Cummings J; Benson DF
1998 **Frontotemporal lobar degeneration - A consensus on clinical diagnostic criteria**
NEUROLOGY 1998;51:1546-1554.
WoS Record 981
2. Rosen HJ; Gorno-Tempini ML; Goldman WP; Perry RJ; Schuff N; Weiner M; Feilwell R; Kramer JH; Miller BL
2002 **Patterns of brain atrophy in frontotemporal dementia and semantic dementia**
NEUROLOGY 2002;58:198-208.
WoS Record 164
3. Forman MS; Farmer J; Johnson JK; Clark CM; Arnold SE; Coslett HB; Chatterjee A; Hurtig HI; Karlawish JH; Rosen HJ; Van Deerlin V; Lee VMY; Miller BL; Trojanowski JQ; Grossman M
2006 **Frontotemporal dementia: Clinicopathological correlations**
ANNALS OF NEUROLOGY 2006;59:952-962.
WoS Record 67
4. Rosen HJ; Hartikainen KM; Jagust W; Kramer JH; Reed BR; Cummings JL; Boone K; Ellis W; Miller C; Miller BL
2002 **Utility of clinical criteria in differentiating frontotemporal lobar degeneration (FTLD) from AD**
NEUROLOGY 2002;58:1608-1615.
WoS Record 66

Step 7: Knowledge Discovery

Based on the computational analysis of more than 8 million publications, a vector space model is used to identify concepts which have not been mentioned together with Alzheimer Disease in the past but might be relevant for the future. These views are not meant to provide the “immediate truth” but, rather, are meant to identify potential links and relations which can be verified by a domain expert during the hypothesis-formulation process.

Return to the starting point. Click on the “Knowledge Discovery” button. The following screen will appear.



The screenshot displays the Knowledge Dashboard interface. At the top, there is a blue header with the text "Knowledge Dashboard" and "Powered by Web of Science". To the right of the header are the logos for Thomson Reuters and Collexis, along with a "LOG OUT" link. Below the header is a navigation bar with tabs for "Concepts", "Experts", "Journals", "Locations", "Trends", and "Knowledge Discovery". The "Knowledge Discovery" tab is currently selected. Underneath the navigation bar, there are three sub-tabs: "Emerging Concepts", "Distance Analysis", and "Change Settings". The "Emerging Concepts" sub-tab is active. The main content area is titled "Emerging Concepts last 10 years" and features a sidebar on the left with two expandable categories: "Chemicals & Drugs" and "Disorders". The main content area contains the following text:

Emerging Concepts

Explore biomedical concepts which can be of interest in the field of Alzheimer's Disease in the future.

Based on approximately 8 million scientific publications from the last ten years, the knowledge discovery part of the Dashboard presents concepts in different categories which have not yet co-occurred with Alzheimer's Disease in the past, but will co-occur with Alzheimer's Disease most likely in the future. The views in this part of the Dashboard are not generating "scientific innovations" and "truths" directly but the identified concepts can be evaluated and judged by a researcher - in order to stimulate new ideas and thoughts.

Emerging concepts views: All concepts with an increasing probability that they will co-occur – the histogram shows the slope as a timeline.

By clicking on “Chemicals & Drugs” or “Disorders”, you are able to explore biomedical concepts which may possibly co-occur with Alzheimer Disease in the future.

Clicking “Chemicals & Drugs” will result in the following screen:

The screenshot displays the Knowledge Dashboard interface. At the top, there is a navigation bar with "LOG OUT" on the right. The main header includes "Knowledge Dashboard" and "Powered by Web of Science", along with logos for Thomson Reuters and Collaxis. Below the header, there are tabs for "Concepts", "Experts", "Journals", "Locations", "Trends", and "Knowledge Discovery". Under "Knowledge Discovery", there are sub-tabs for "Emerging Concepts", "Distance Analysis", and "Change Settings".

The "Emerging Concepts last 10 years" section is active, showing a list of concepts under the "Chemicals & Drugs" category. Each concept has a corresponding bar chart showing its trend over time. The concepts listed are: Protomers, Pentanols, Organotin Compounds, Cresols, Actomyosin, Eukaryotic Initiation Factor-2, Sesame Oil, Polyvinyl Chloride, Chemokines, CC, and Glutarates.

The main content area is titled "Emerging Concepts" and contains the following text:

Explore biomedical concepts which can be of interest in the field of Alzheimer's Disease in the future.

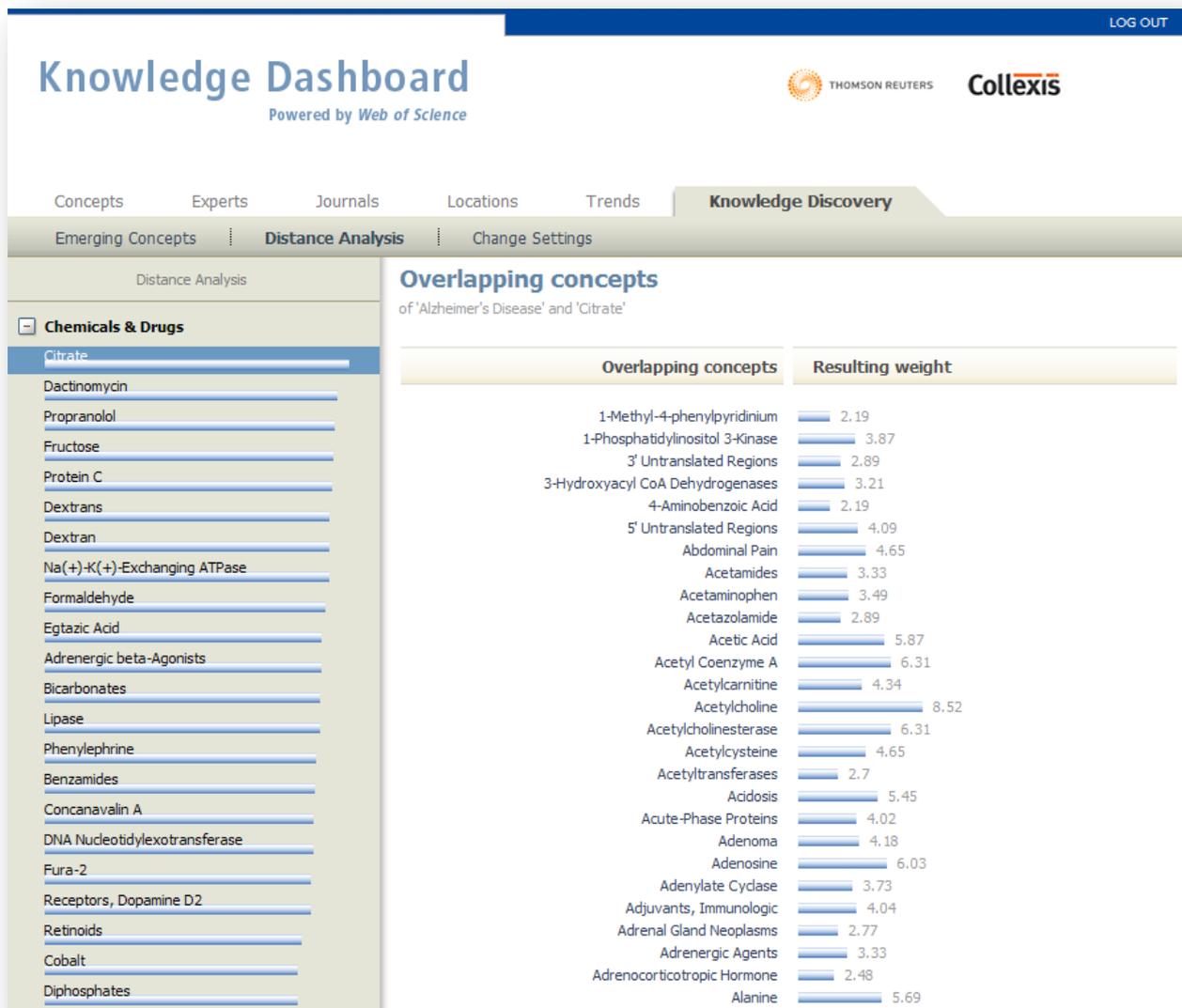
Based on approximately 8 million scientific publications from the last ten years, the knowledge discovery part of the Dashboard presents concepts in different categories which have not yet co-occurred with Alzheimer's Disease in the past, but will co-occur with Alzheimer's Disease most likely in the future. The views in this part of the Dashboard are not generating "scientific innovations" and "truths" directly but the identified concepts can be evaluated and judged by a researcher - in order to stimulate new ideas and thoughts.

Emerging concepts views: All concepts with an increasing probability that they will co-occur - the histogram shows the slope as a timeline.

Distance Analysis, explores which concepts are relevant for the dashboard topic?

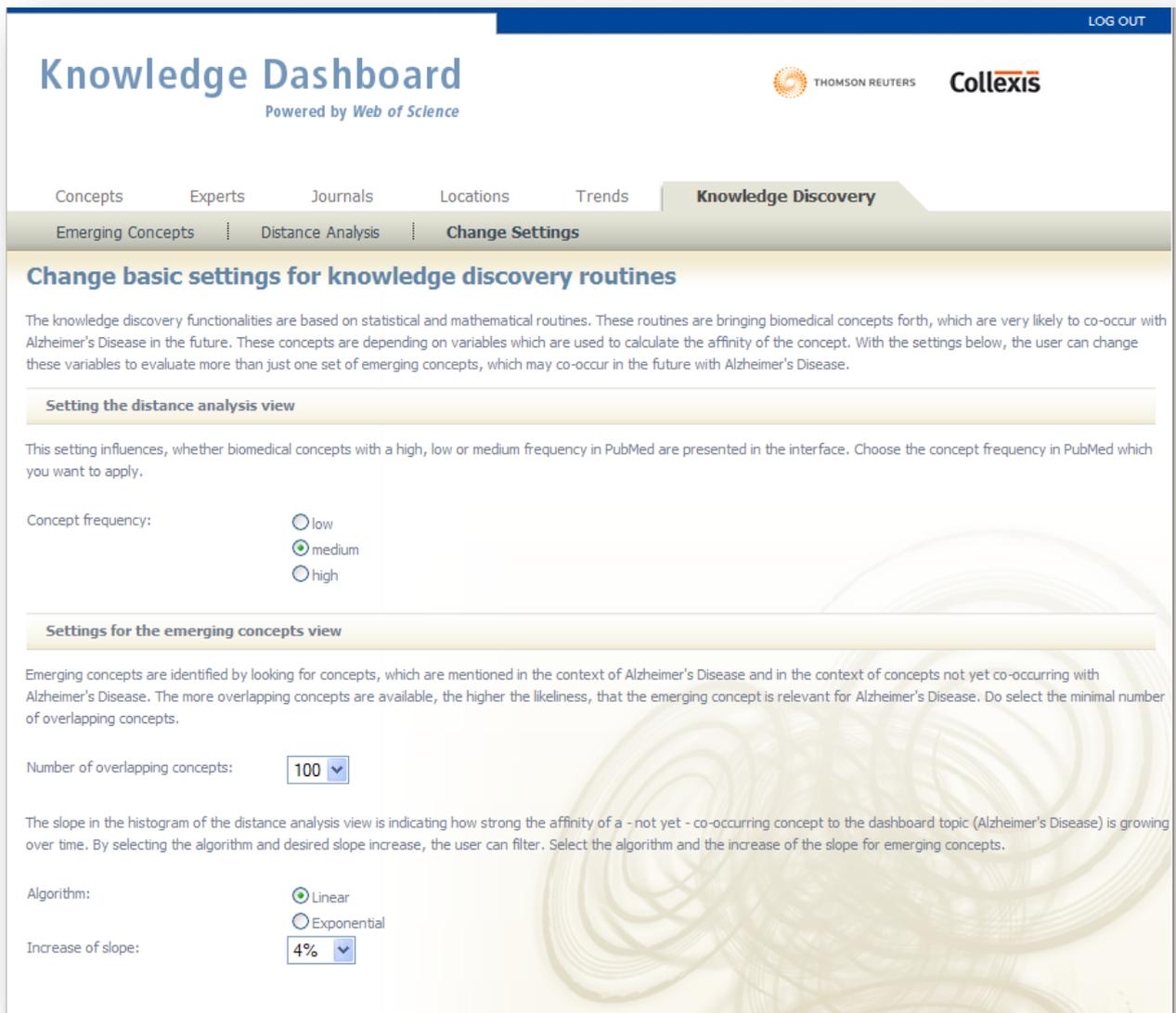
The screenshot displays the Knowledge Dashboard interface. At the top, there is a blue header with the text "Knowledge Dashboard" and "Powered by Web of Science". To the right of the header are the logos for Thomson Reuters and Collexis, along with a "LOG OUT" link. Below the header is a navigation bar with tabs for "Concepts", "Experts", "Journals", "Locations", "Trends", and "Knowledge Discovery". The "Knowledge Discovery" tab is currently selected. Underneath this tab, there are three sub-tabs: "Emerging Concepts", "Distance Analysis", and "Change Settings". The "Distance Analysis" sub-tab is active. On the left side of the dashboard, there is a sidebar with a "Distance Analysis" heading and two expandable categories: "Chemicals & Drugs" and "Disorders". The main content area on the right features a section titled "Distance Analysis" with the following text: "Explore biomedical concepts which can be of interest in the field of Alzheimer's Disease in the future." Below this, a paragraph explains that the dashboard is based on approximately 8 million scientific publications from the last ten years, presenting concepts that have not yet co-occurred with Alzheimer's Disease but are likely to in the future. It notes that these views are not generating "scientific innovations" and "truths" directly but that the identified concepts can be evaluated and judged by a researcher to stimulate new ideas and thoughts. The final sentence reads: "Distance Analysis view: which concepts are most relevant for the Dashboard topic?"

Change basis settings for knowledge discovery routines



The knowledge discovery functionalities are based on statistical and mathematical routines. These routines are bringing biomedical concepts forth, which are likely to co-occur with Alzheimer Disease in the future. These concepts are depending on variables which are used to calculate the affinity of the concept.

With the settings below, the user can change the variables to evaluate more than just one set of emerging concepts, which may co-occur in the future with Alzheimer Disease.



The screenshot shows the 'Knowledge Dashboard' interface, powered by Web of Science, Thomson Reuters, and Collexis. The 'Knowledge Discovery' tab is active, and the 'Change Settings' option is selected. The page is titled 'Change basic settings for knowledge discovery routines'. It contains two main sections: 'Setting the distance analysis view' and 'Settings for the emerging concepts view'. The 'Setting the distance analysis view' section explains that the setting influences the frequency of biomedical concepts presented in the interface, with options for low, medium (selected), or high. The 'Settings for the emerging concepts view' section explains that emerging concepts are identified by looking for concepts mentioned in the context of Alzheimer's Disease and concepts not yet co-occurring with it. It includes a dropdown for the number of overlapping concepts (set to 100), an explanation of the slope in the histogram, and options for the algorithm (Linear selected, Exponential) and the increase of slope (set to 4%).

The views in this part of the Dashboard does not directly generates "scientific innovations" and "truths", but the identified concepts can be evaluated and judged by a researcher in order to stimulate new ideas and thoughts. In this case, pentanols can possibly be related to Alzheimer Disease in the near future. Clicking on pentanols will provide you with an overview of pentanols and weighting factors which indicate the relative possibility of each pentanol co-occurring with Alzheimer Disease in the future.