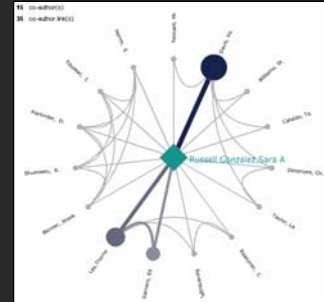


Interactive Maps of Science and Technology

Dr. Katy Börner

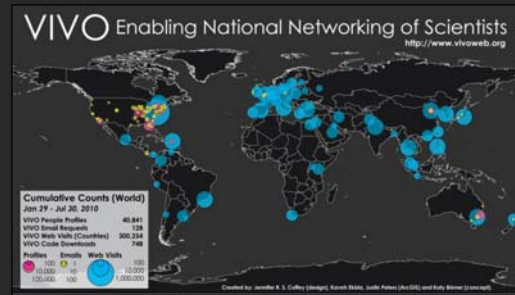
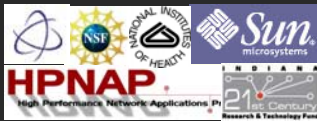
Cyberinfrastructure for Network Science Center, Director
 Information Visualization Laboratory, Director
 School of Library and Information Science
 Indiana University, Bloomington, IN
katy@indiana.edu



With special thanks to the Cyberinfrastructure for Network Science Center team and the VIVO Team.

*3rd International Workshop on Network Theory:
 "Web Science meets Network Science"
 Northwestern University.*

March 4-5, 2011



NSF/JSMF Workshop on Mapping of Science and Semantic Web

Date

March 4-5, 2010

Meeting Place

E174 Wells Main Library, Indiana

Organizers



Katy Börner
 Victor H. Yngve Professor, Director, Cyberinfrastructure exhibit, Bloomington, IN
katy@indiana.edu
[\[PR^2\]](#) | [Slides](#) | [Intro](#)



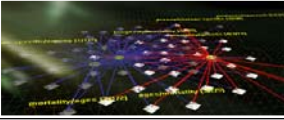
Ying Ding
 Assistant Professor, Indiana University
dingying@indiana.edu
[\[PR^2\]](#) | [Slides](#)



Peter Fox
 Tetherless World Consultant, Professor, Earth and Environmental Engineering, Rensselaer Polytechnic Institute
[\[PR^2\]](#) | [Slides](#)

<http://scimaps.org>





Web Science meets Network Science

Opportunities

- High quality data, e.g., **semantic web data**
- Advanced data analysis techniques
- Visual communication of results to a large audience, e.g., using **science maps**

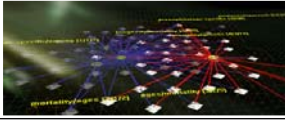
Challenges

- Different languages, cultures, value systems, data formats
- Interplay of science, engineering, and design

Disclaimers for my talk:

- Just visuals but **80%** of effort to create those is spent on data cleaning while another **15%** is spent on data analysis
- For formulas see references

Science and Technology Maps



Science Map Users

Advantages for Funding Agencies

- Supports monitoring of (long-term) money flow and research developments, evaluation of funding strategies for different programs, decisions on project durations, funding patterns.
- Staff resources can be used for scientific program development, to identify areas for future development, and the stimulation of new research areas.

Advantages for Researchers

- Easy access to research results, relevant funding programs and their success rates, potential collaborators, competitors, related projects/publications (**research push**).
- More time for research and teaching.

Advantages for Industry

- Fast and easy access to major results, experts, etc.
- Can influence the direction of research by entering information on needed technologies (**industry-pull**).

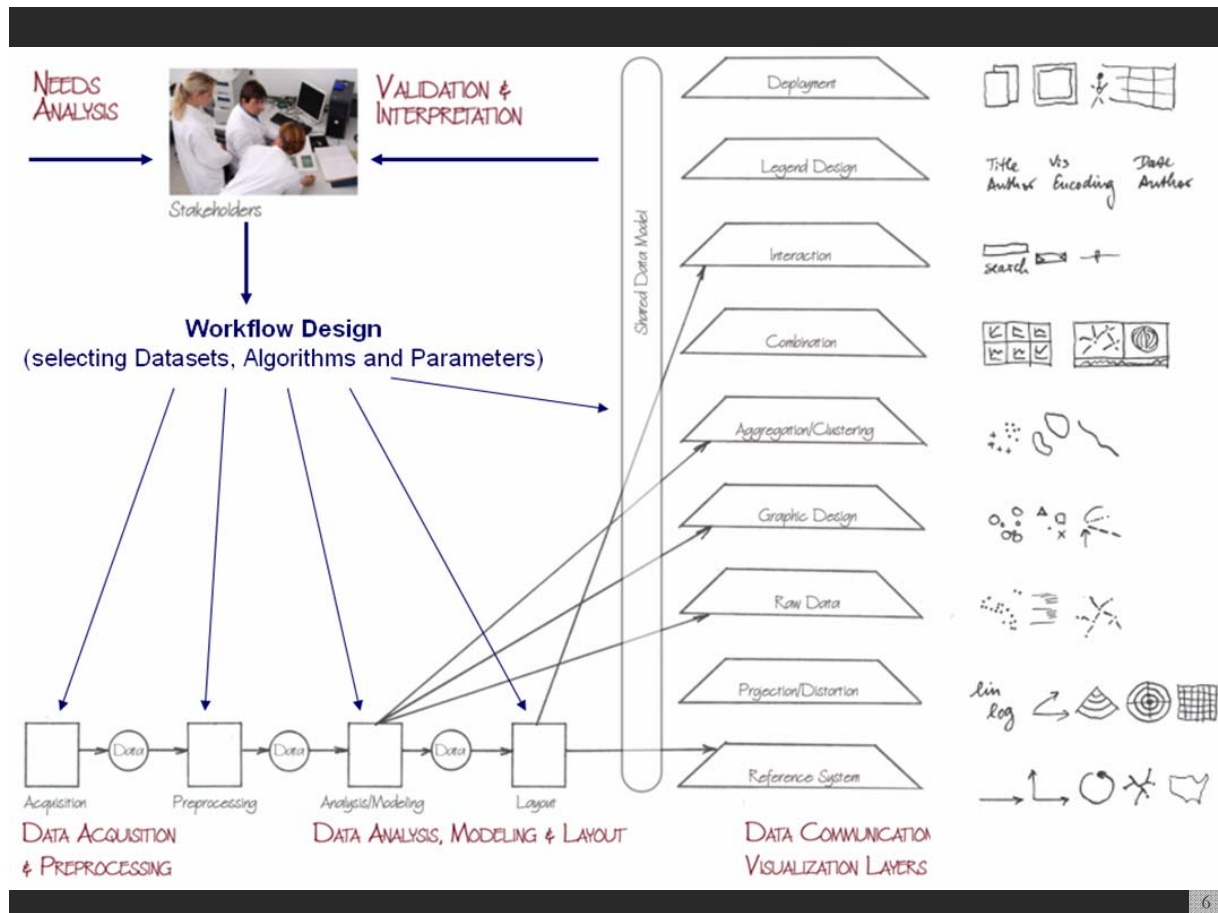
Advantages for Publishers

- Unique interface to their data.
- Publicly funded development of databases and their interlinkage.

For Society

- Dramatically improved access to scientific knowledge and expertise.

5



6

Mapping Science Exhibit – 10 Iterations in 10 years

<http://scimaps.org>

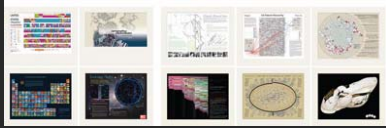
The Power of Maps (2005)



Science Maps for Economic Decision Makers (2008)



The Power of Reference Systems (2006)



Science Maps for Science Policy Makers (2009)



The Power of Forecasts (2007)



Science Maps for Scholars (2010)

Science Maps as Visual Interfaces to Digital Libraries (2011)

Science Maps for Kids (2012)

Science Forecasts (2013)

How to Lie with Science Maps (2014)

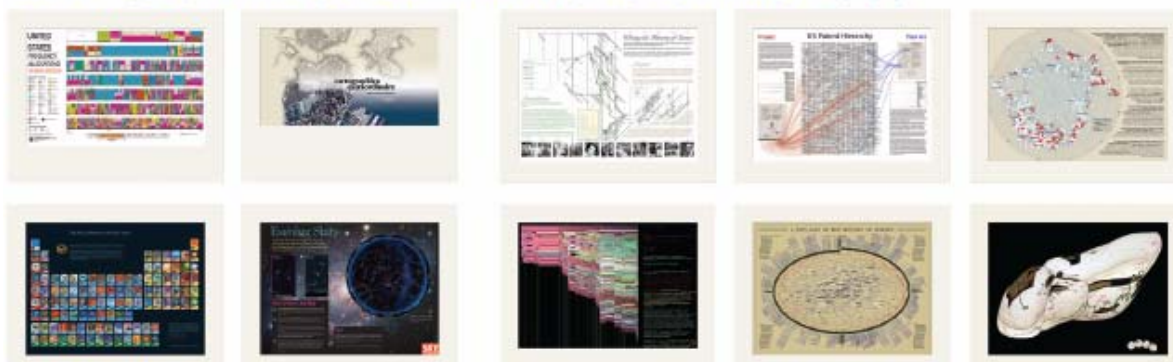
Exhibit has been shown in 72 venues on four continents. Currently at
 - NSF, 10th Floor, 4201 Wilson Boulevard, Arlington, VA
 - Center of Advanced European Studies and Research, Bonn, Germany
 - University of Michigan, Ann Arbor, MI



THE POWER OF MAPS 2005



THE POWER OF REFERENCE SYSTEMS 2006



SCIENCE MAPS FOR SCIENCE POLICY MAKERS 2009



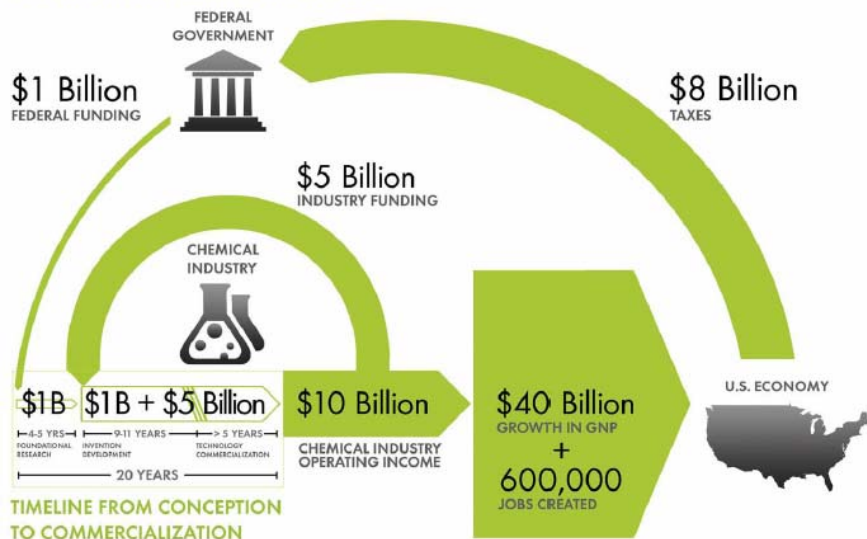
SCIENCE MAPS FOR SCHOLARS 2010



Chemical Research & Development Powers the U.S. Innovation Engine

Macroeconomic Implications of Public and Private R&D Investments in Chemical Sciences

INVESTMENT IN CHEMICAL SCIENCE R&D

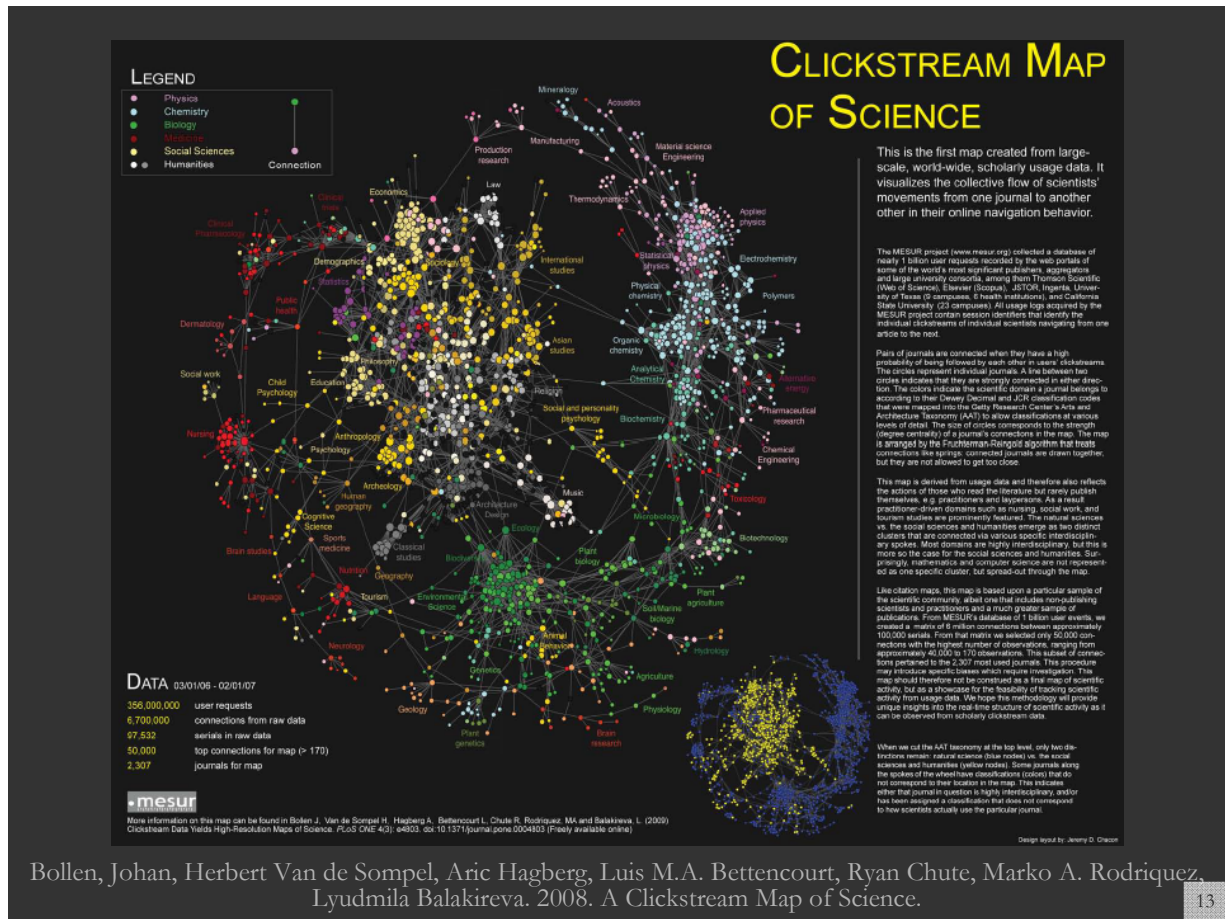


The Council for Chemical Research (CCR)

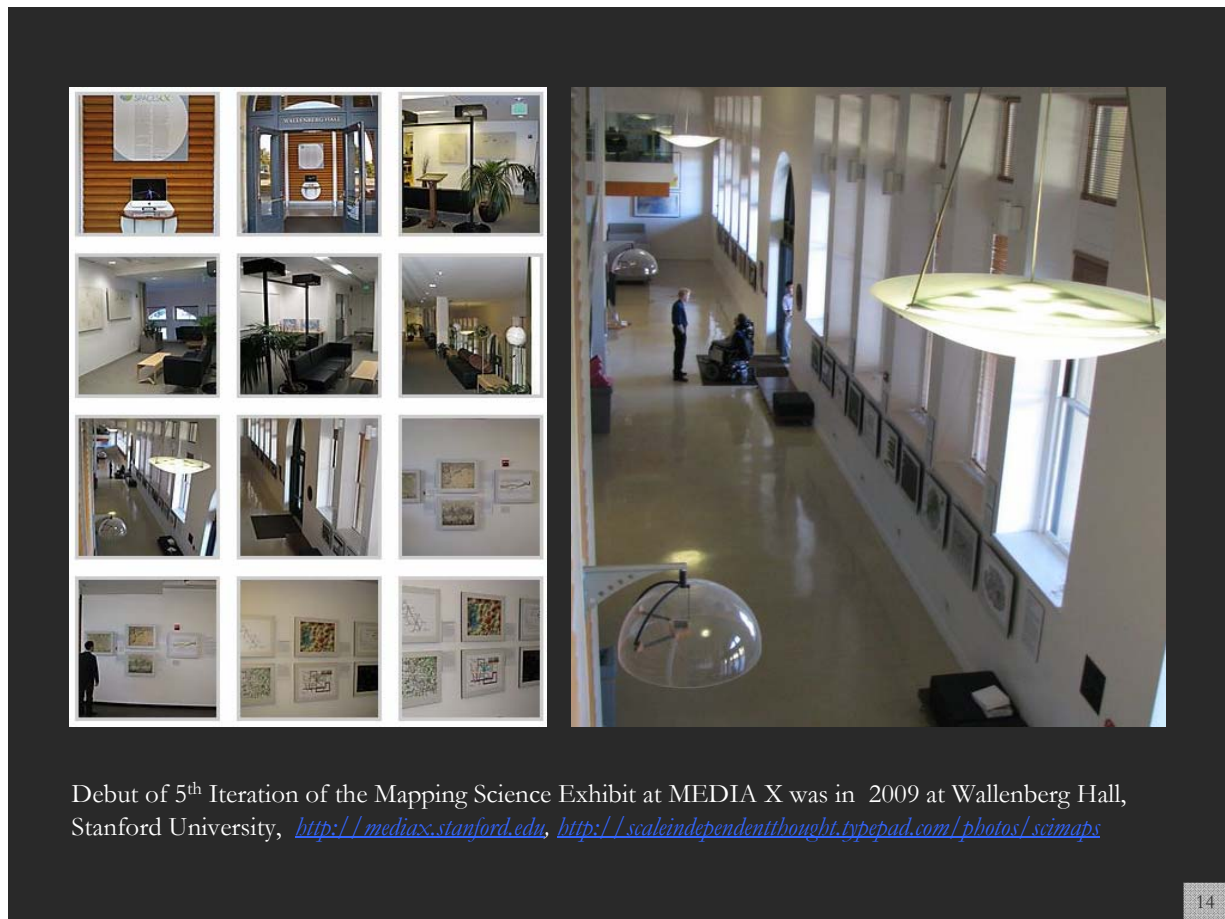
has provided the U.S. Congress and government policy makers with important results regarding the impact of Federal Research & Development (R&D) investments on U.S. innovation and global competitiveness through its commissioned 5-year two phase study. To take full advantage of typically brief access to policy makers, CCR developed the graphic below as a communication tool that distills the complex data produced by these studies in direct, concise and clear terms.



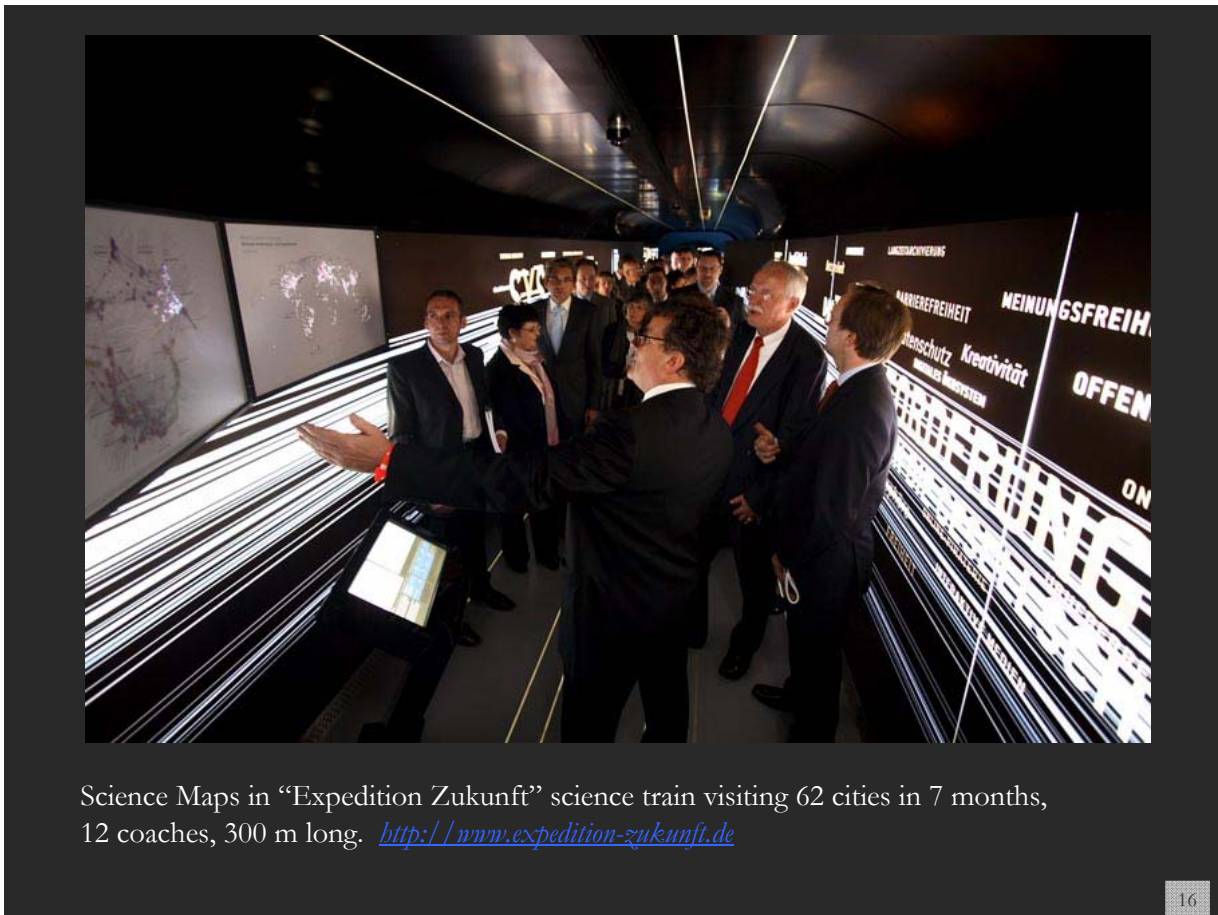
The design shows that an input of \$1B in federal investment, leveraged by \$5B industry investment, brings new technologies to market and results in \$10B of operating income for the chemical industry, \$40B growth in the Gross National Product (GNP) and further impacts the US economy by generating approximately 600,000 jobs, along with a return of \$8B in taxes. Additional details, also reported in the CCR studies, are depicted in the map to the left. This map clearly shows the two R&D investment cycles; the shorter industry investment at the innovation stage to commercialization cycle, and the longer federal investment cycle which begins in basic research and culminates in national economic and job growth along with the increase tax base that in turn is available for investment in basic research.



Bollen, Johan, Herbert Van de Sompel, Aric Hagberg, Luis M.A. Bettencourt, Ryan Chute, Marko A. Rodriguez, Lyudmila Balakireva. 2008. A Clickstream Map of Science. 13



Debut of 5th Iteration of the Mapping Science Exhibit at MEDIA X was in 2009 at Wallenberg Hall, Stanford University, <http://mediax.stanford.edu>, <http://scaleindependentthought.typepad.com/photos/scimaps>



Science Maps in "Expedition Zukunft" science train visiting 62 cities in 7 months, 12 coaches, 300 m long. <http://www.expedition-zukunft.de>

Interactive S&T Maps

Scholarometer

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Scholarometer^(beta) is a social tool to facilitate citation analysis and help evaluate the impact of an author's publications.

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<p>Scholarometer Overview by Scholarometer</p>	<p>Top authors by h index</p> <table border="1"><tbody><tr><td>y zhang</td><td>247</td></tr><tr><td>m cohen</td><td>235</td></tr><tr><td>j taylor</td><td>217</td></tr><tr><td>c smith</td><td>214</td></tr><tr><td>j walker</td><td>177</td></tr><tr><td>sh snyder</td><td>176</td></tr><tr><td>ha simon</td><td>173</td></tr><tr><td>r schwartz</td><td>173</td></tr></tbody></table>	y zhang	247	m cohen	235	j taylor	217	c smith	214	j walker	177	sh snyder	176	ha simon	173	r schwartz	173	<p>Scholarometer Tool scholarometer</p> <p>RA Robins and 1 other author in discipline #behavioral_sciences. http://bit.ly/hQF3vw 3 hours ago · reply</p> <p>G Alexander and 1 other author in discipline #behavioral_sciences. http://bit.ly/fufWvg 3 hours ago · reply</p>
y zhang	247																	
m cohen	235																	
j taylor	217																	
c smith	214																	
j walker	177																	
sh snyder	176																	
ha simon	173																	
r schwartz	173																	

<http://scholarometer.indiana.edu>

Maps of Science - Windows Internet Explorer

http://mapofscience.com/

File Edit View Favorites Tools Help

Maps of Science

MAPS OF SCIENCE

Overview Detail Disciplinary Maps Competency Maps Paradigm Maps Posters Education

BETTER MAPS • BETTER DECISIONS

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Done Internet

<http://mapofscience.com> and SciVal by Elsevier

Interactive Maps of Science – Philanthropy

Zoom To Grantmaker Map Create/Edit Grant Map Create/Edit Tell us what you think »

View State Data: Select a state... Standard Terrain Satellite

U.S. Map World Map

POWERED BY Google

Grantmaker/Grant data ©2009 The Foundation Center

About this Map

- 7,908 Grantmakers
- 93,091 Recipients
- 418,555 Grants

Current Parameters

Geographic Display: State
 Grant Indicator: None
 Thematic Indicator: None
 Grant Years: 2009, 2008, 2007
 Grantmaker Filters: None

[Print/Save Map](#)
[Copy Map](#)

<http://www.philanthropyinsight.org>

Interactive World and Science Map of S&T Jobs

Angela Zoss, Michael Conover, Katy Börner (2010)

Visualization of Job Postings

The screenshot displays the UCSD Map of Science interface. It features a central network visualization of scientific domains, with nodes representing clusters of journals and links representing relationships between them. The clusters are labeled with scientific domains such as 'Math and Physics', 'Chemistry', 'Health Professionals', 'Medical Specialties', 'Brain Research', 'Social Sciences', 'Humanities', 'Biology', 'Earth Sciences', 'Chemical, Mechanical, and Civil Engineering', 'Biotechnology', 'Infectious Diseases', and 'Engineering and Computer Science'. The nodes are represented by colored circles of varying sizes, indicating the density of journals within each cluster.

On the left side, there is a 'Map of Science' panel with a search bar and a 'Search for Jobs' button. Below it, a 'Geographic Visualization' panel shows a map of the United States with red dots indicating job postings. A 'Postdoc at Harvard Medical School' link is also visible.

On the right side, there is a 'Map of Science' text box containing the following text:

Scientific domains are highly interconnected. The boundaries between different domains are often fuzzy. One way of thinking about the relationships between domains is to conceptualize all scientific domains as existing within a large network of research.

Creating a network of scientific research can be accomplished by looking at scientific journals and their articles. The UCSD Map of Science used here is the product of a large study by researchers at the University of California San Diego using 7.2 million papers and over 16,000 separate journals, proceedings, and series from Thomson Scientific and Scopus over the five year period from 2001 to 2005. The researchers used citations between the papers and journals to cluster journals into small groups of highly related journals.

Those clusters are represented by 554 individual nodes in the network. The links between the clusters show that some clusters are related to other clusters but are not as tightly connected as the journals that make up each cluster. Then the clusters are labeled both by the content area shared by the journals in the cluster and by the overarching scientific domain for that cluster (represented by one of 13 colors).

Maps of science like this one can be used to understand many different data sets and how they can be represented by topic. Here we are looking at the topics that appear in job postings from large inh...

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The screenshot shows the MAPSustain website interface. The header features the logo 'MAPSustain Mapping Sustainability Research' on a blue background with a network visualization. Below the header, there are two tabs: 'Geographic Map' and 'Science Map'. The 'Geographic Map' tab is active, showing a map of the United States with red and green markers indicating research locations. The map includes state abbreviations and labels for major bodies of water like the Gulf of Mexico and the North Atlantic Ocean.

On the right side, there is a 'Detail' section with a 'Geographic Visualization' sub-section. It contains the text: 'Here we have a more traditional view of the records - a geographic overlay. Featured here are the records that list both a city and state in the United States. Feel free to search, zoom, pan, and click for descriptions.'

Below the map, there is a search and filter interface. It includes checkboxes for 'Funding' (with sub-options: NH, NSF, USDA), 'Publications' (with sub-options: DOE, ISI, Medline), and 'Patents' (with sub-options: USPTO). There are also radio buttons for 'Citations' and 'Count'. A date range selector is set to 'From year 1901 to year 2009'. A search bar with a 'Search' button is also present.

At the bottom of the page, there is a large blue banner with the URL <http://mapsustain.cns.iu.edu> and the logo for the 'CYBERINFRASTRUCTURE for NETWORK SCIENCE CENTER School of Library and Information Science, Indiana University'.

22

Geographic Map
Science Map

Maps
Detail
Data
About

About

A new field of *Sustainability Science and Engineering* is emerging that seeks to understand the fundamental character of interactions between nature and human society and to help steer the impact of humanity's needs on the planet's natural resources towards sustainable trajectories. The field is unified in clear terms by its ultimate goals but occupies an interdisciplinary position among traditional research fields, spanning both science and engineering and spreading across disciplines as diverse as agriculture, ecology, oceanography, climate studies, economics, a diverse set of social sciences, energy and materials and several additional aspects of engineering, physics, biology, and chemistry. Although Sustainability Science and engineering is by now widely discussed in the scientific and engineering community, and is beginning to be connected to the political agenda for economic and social development, it remains unclear to what extent its many facets are being integrated into a global perspective and whether researchers are utilizing it as a nexus to collaborate across traditional scientific and engineering fields.

Please consult the [Mapping the Structure and Evolution of Sustainability Science](#) workshop web page for further information and details.

Web Page Design

This web site provides an interactive interface to publication, patent, and funding data on 'biomass' and 'biofuel' research. Visitors are invited to explore what funding is available in what geospatial regions and in what areas of science and what publications and patents

Google Map JavaScript API was used to implement both maps with two aggregation layers for each. The geographic map aggregates to the **state level** and the **city level**. The science map has a high level of aggregation of 13 top-level scientific **disciplines** and a low level of 554 **sub-disciplines**.

23

Geographic Map
Science Map

Maps
Detail
Data
About

Datasets

The dataset covers 13,528 records on "biomass" and "biofuel" research and technology from seven different publication, patent, funding datasets for the years 1901 to 2010.

Funding

National Institutes of Health (NIH) awards retrieved from the Scholarly Database (<http://sdb.slis.indiana.edu>) at Indiana University on 11/20/2010. Search query used was biomass OR biofuel OR "bio mass" OR "bio fuel" in the 'All Text' field.

National Science Foundation (NSF) awards retrieved from the Scholarly Database (<http://sdb.slis.indiana.edu>) at Indiana University on 11/20/2010. Search query used was biomass OR biofuel OR "bio mass" OR "bio fuel" in the 'All Text' field.

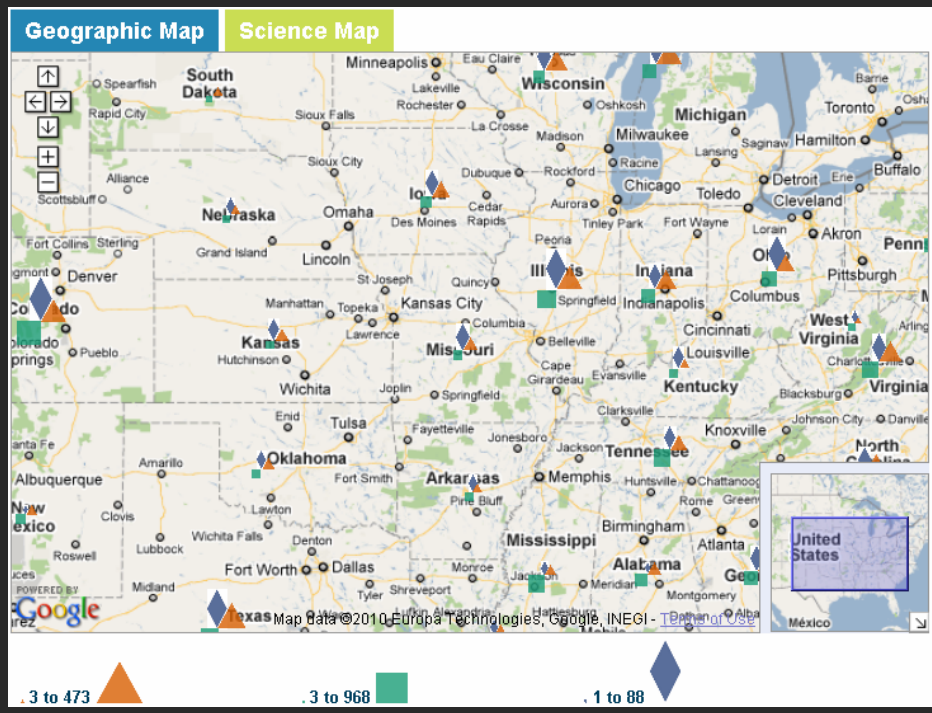
US Department of Agriculture (USDA) awards made available by a staff member of the Office of Scientific and Technical Information from the US Department of Energy (DOE).

Publications

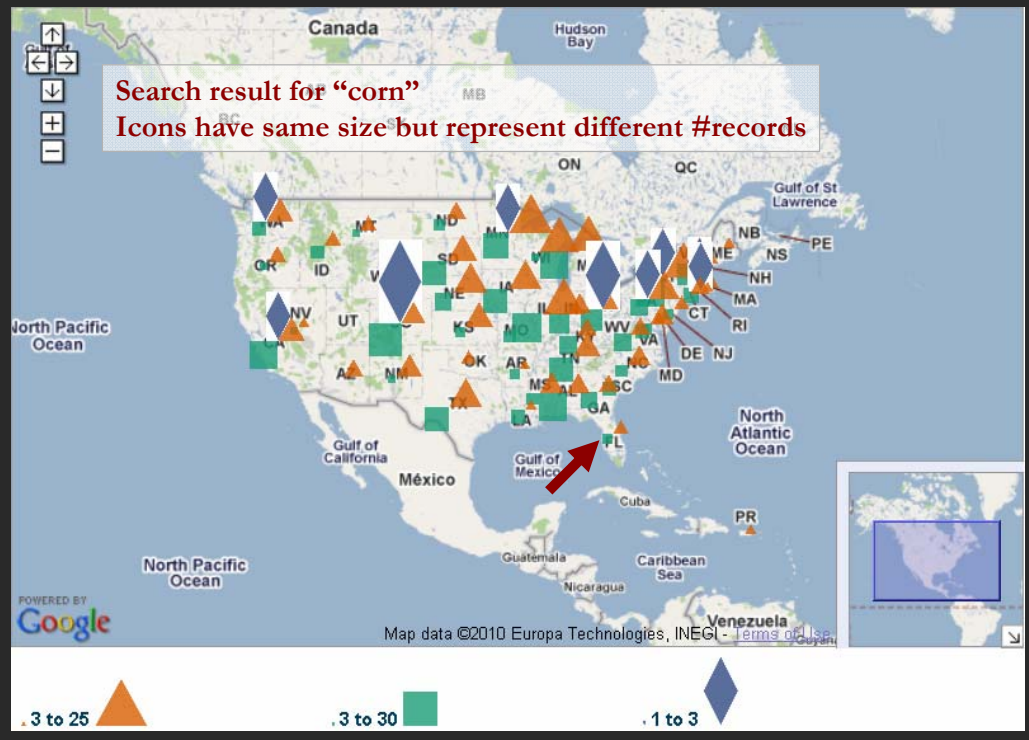
MEDLINE papers by the National Library of Medicine retrieved from the Scholarly Database (<http://sdb.slis.indiana.edu>) at Indiana University on 11/20/2010. Search query used was biomass OR biofuel OR "bio mass" OR "bio fuel" in the 'All Text' field.

The geographic map at state level.

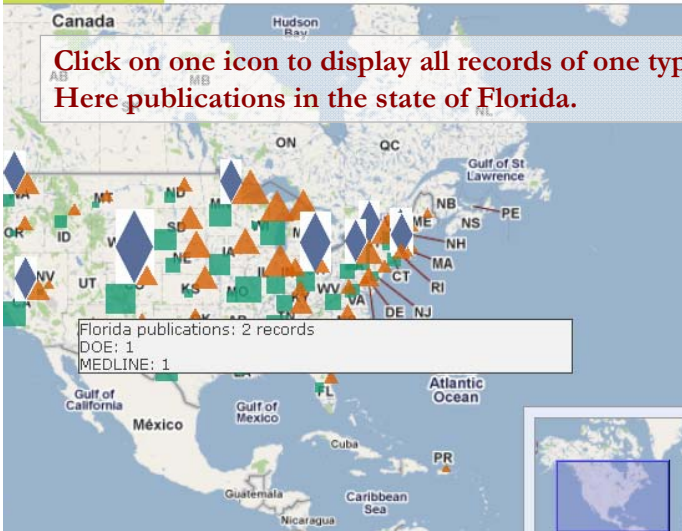
24



The geographic map at city level.



Science Map



Maps Detail Data About

> Florida

MEDLINE
2002

- [Recovery Of Dairy Manure Nutrients By Benthic Freshwater Algae](#)

DOE
1985

- [Enzymatic Hydrolysis And Fermentation Of Corn For Fuel Alcohol](#)



Information Bridge: DOE Scientific and Technical Information - - Document #5789929 - Mozilla Firefox

http://www.osti.gov/bridge/product.biblio.jsp?osti_id=5789929

DOE Scientific and Technical Information

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Full Text Availability information may be found in the Availability, Publisher, Research Organization, Resource Relation and/or Author (affiliation information) fields and/or via the "Full-text Availability" link. For a journal article, please see the Resource Relation field.

Title [Enzymatic hydrolysis and fermentation of corn for fuel alcohol](#)
[Word Cloud](#) | [More Like This](#)

Creator/Author [Mullins, J.T.](#)

Publication Date 1985 Jan 01

OSTI Identifier OSTI ID: 5789929

Other Number(s) Journal ID: CODEN: BIBIA

Resource Type Journal Article

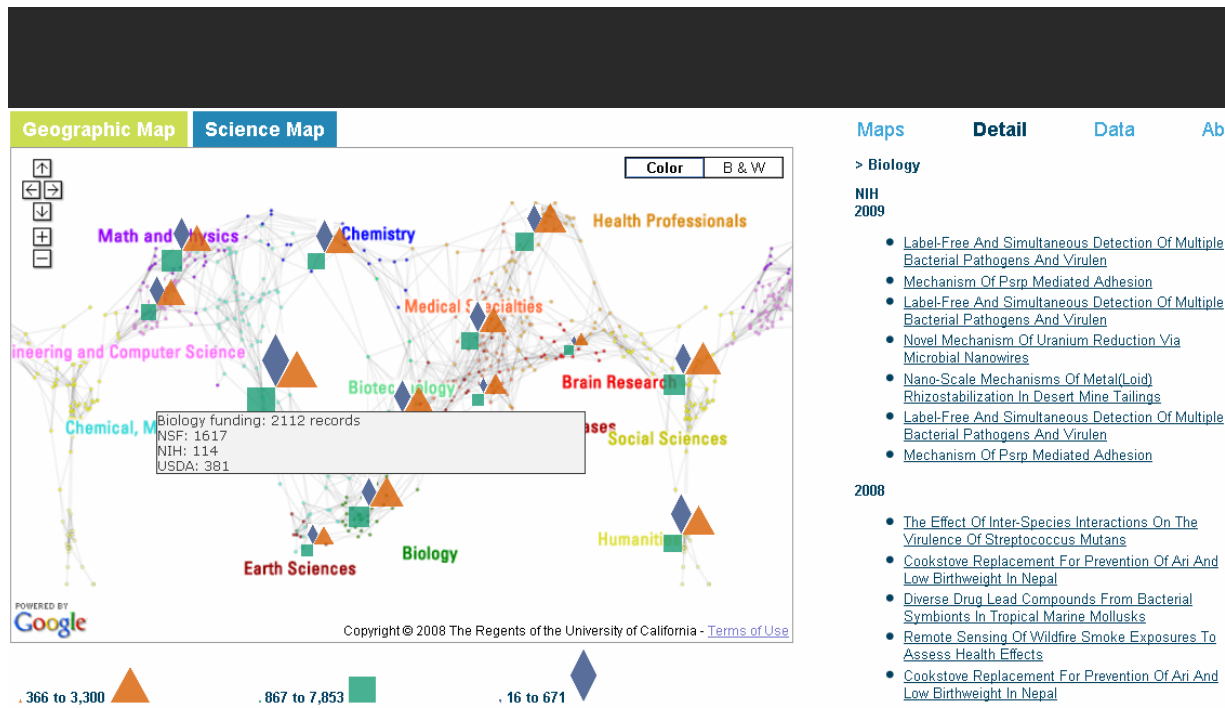
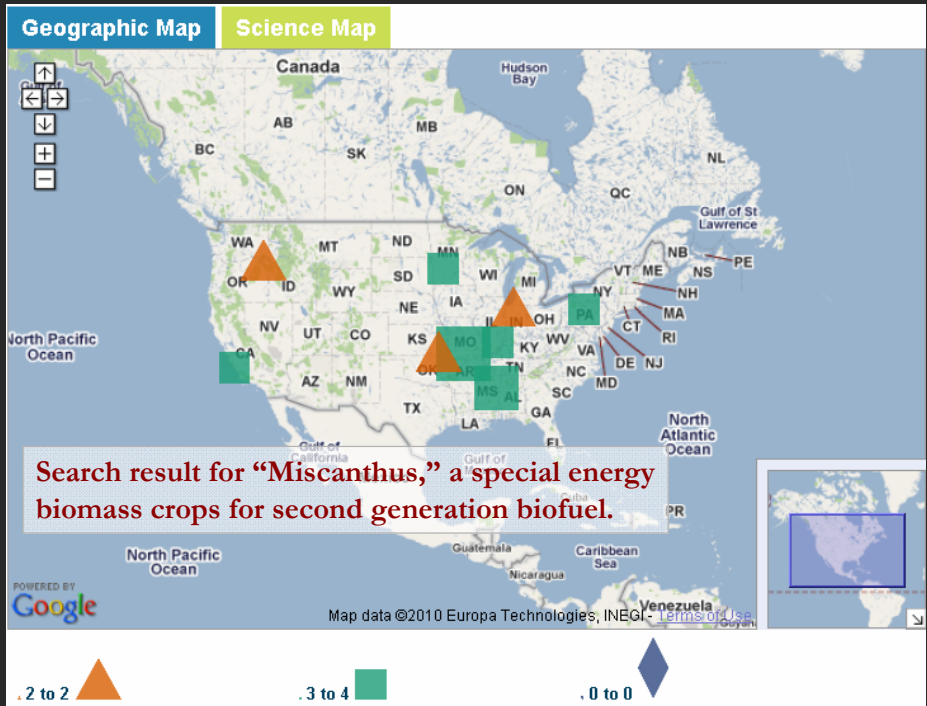
Resource Relation Journal Name: Biotechnol. Bioeng.; (United States); Journal Volume: 27:3

Research Org Univ. of Florida, Gainesville

Subject 09 BIOMASS FUELS; 32 ENERGY CONSERVATION, CONSUMPTION, AND UTILIZATION; ETHANOL FUELS; BIOSYNTHESIS; MAIZE; ENZYMATIC HYDROLYSIS; FERMENTATION; PRODUCTIVITY; COST; ENERGY EFFICIENCY; EXPERIMENTAL DATA; WASTE PRODUCT UTILIZATION; ALCOHOL FUELS; BIOCONVERSION; CEREALES; CHEMICAL REACTIONS; DATA; DECOMPOSITION; EFFICIENCY; FUELS; GRASS; HYDROLYSIS; INFORMATION; LYSIS; NUMERICAL DATA; PLANTS;

Done

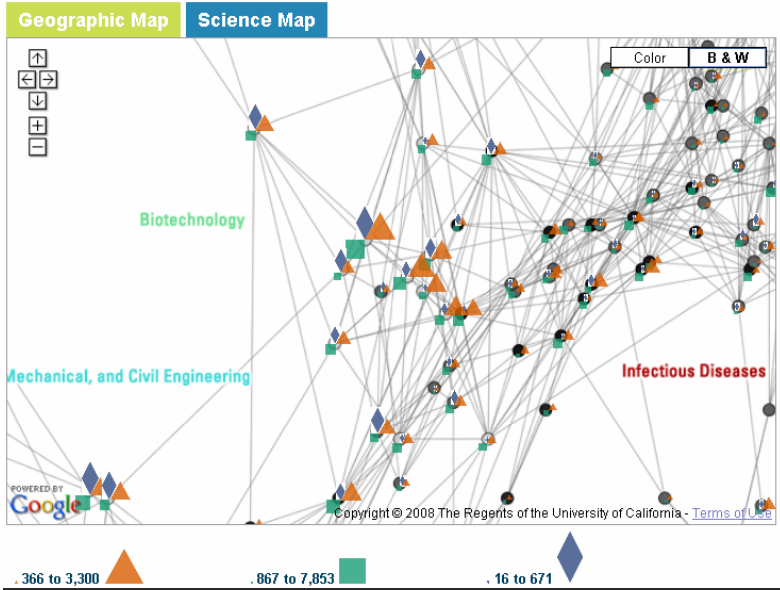
Detailed information on demand
via original source site for exploration and study.



Maps Detail Data Ab

- > Biology
- NIH
2009
- Label-Free And Simultaneous Detection Of Multiple Bacterial Pathogens And Virulen
 - Mechanism Of Pspg Mediated Adhesion
 - Label-Free And Simultaneous Detection Of Multiple Bacterial Pathogens And Virulen
 - Novel Mechanism Of Uranium Reduction Via Microbial Nanowires
 - Nano-Scale Mechanisms Of Metal(Loid) Rhizostabilization In Desert Mine Tailings
 - Label-Free And Simultaneous Detection Of Multiple Bacterial Pathogens And Virulen
 - Mechanism Of Pspg Mediated Adhesion
- 2008
- The Effect Of Inter-Species Interactions On The Virulence Of Streptococcus Mutans
 - Cookstove Replacement For Prevention Of Ari And Low Birthweight In Nepal
 - Diverse Drug Lead Compounds From Bacterial Symbionts In Tropical Marine Mollusks
 - Remote Sensing Of Wildfire Smoke Exposures To Assess Health Effects
 - Cookstove Replacement For Prevention Of Ari And Low Birthweight In Nepal

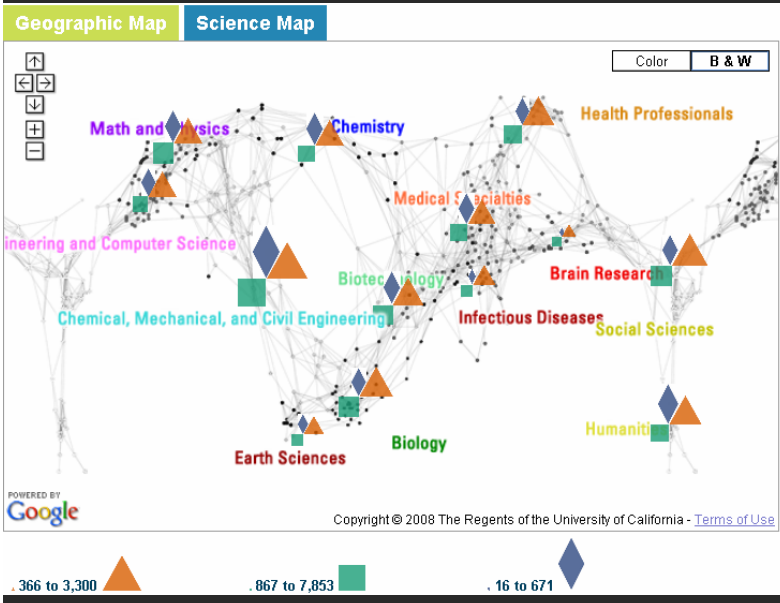
The science map at 13 top-level scientific disciplines level.



Maps Detail Data About

- > Chemistry
- USPTO
- 2009
- Automated Accelerated Extraction Of Trace Elements From Biomass
 - Biomass Based Michael Addition Compositions
- 2008
- Thermal Tolerant Avicelase From
 - Chitosan And Method Of Preparing Chitosan
 - Process For Pyrolytic Heat Recovery Enhanced With Gasification Of Organic Material
 - Chitosan And Method Of Preparing Chitosan
 - Self-Contained Microelectrochemical Bioassay Platforms And Methods
 - Highly Active Xylose Reductase From
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Light Sensing Instrument With Modulated Polychromatic Source
 - Method For Purifying Water
 - Synthesis Of Caprolactam From Lysine

The science map at 554 sub-disciplines level.



Maps Detail Data About

- > Chemistry
- USPTO
- 2009
- Automated Accelerated Extraction Of Trace Elements From Biomass
 - Biomass Based Michael Addition Compositions
- 2008
- Thermal Tolerant Avicelase From
 - Chitosan And Method Of Preparing Chitosan
 - Process For Pyrolytic Heat Recovery Enhanced With Gasification Of Organic Material
 - Chitosan And Method Of Preparing Chitosan
 - Self-Contained Microelectrochemical Bioassay Platforms And Methods
 - Highly Active Xylose Reductase From
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Process For The Solvent-Based Extraction Of Polyhydroxyalkanoates From Biomass
 - Light Sensing Instrument With Modulated Polychromatic Source
 - Method For Purifying Water
 - Synthesis Of Caprolactam From Lysine

Math & Physics	Biotechnology	Medical Specialties
Chemistry	Earth Sciences	Brain Research
Computer Science & EE	Biology	Health Professionals
Other Engineering	Infectious Diseases	Social Sciences
		Humanities

United States Patent: 7364890 - Mozilla Firefox

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MapSustain United States Patent: 7364890 United States Patent: 7364890 Information Bridge: DOE Scientific a...

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(1 of 1)

United States Patent 7,364,890

Ding, et al. April 29, 2008

Thermal tolerant avicelase from *Acidothermus cellulolyticus*

Abstract

The invention provides a thermal tolerant (thermostable) cellulase, AvIII, that is a member of the glycoside hydrolase (GH) family. AvIII was isolated and characterized from *Acidothermus cellulolyticus* and, like many cellulases, the disclosed polypeptide and/or its derivatives may be useful for the conversion of biomass into biofuels and chemicals.

Inventors: **Ding; Shi-You** (Golden, CO), **Adney; William S.** (Golden, CO), **Vinzant; Todd B.** (Golden, CO), **Himmel; Michael E.** (Littleton, CO)

Assignee: **Midwest Research Institute** (Kansas City, MO)

App. No.: **09/017,276**

Done

NIH Map Viewer Show Topic Browser ? Export Data Methods Feedback

2009 ? add delete AND Topic Words cancer breast cancers cancer_risk cancer_p 20 % Search Clear Search

Institutes (9)

NIH Inst	# Grants	Count
NCI		116
NCR		10
NIHES		5
NCMHD		1
NIH		-

Topics

%	Title Words
25.9	breast, cancer, cancer_risk, women, cancer_sui
3.86	risk, risk_factors, cancer, prospective, women,
3.76	genome_wide_association, loci, genome_wide,
3.70	genetic, genetics, genes, gene_environment, c

Grants (137)

NIH Inst	Grant
NCR	3P20RR011792-10S2 6914 OBESITY, INSULIN RESISTANCE, IGFs, AND BREAST CANCER RISK IN AFRICAN AMERICANS PI: CUI, YONG
NCI	3R01CA120562-03S1 Commonly Used Medications and Breast Cancer Recurrence PI: BOUDREAU, DENISE M
NCI	5R01CA120562-03 Commonly Used Medications and Breast Cancer Recurrence PI: BOUDREAU, DENISE M
NCI	5R01CA093772-06 Long-term Survivorship in Older Women with Early Stage Breast

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<https://app.nihmaps.org>

NIH Topic Browser - Institute Information

NLM NCI NEI NCCAM NIEHS NIGMS NINR NICHD NINDS NIA NCMHD NIAMS NIH NIDDK NHLBI NIAAA NIMH NHGRI FIC NIBIB NIDCR NCRN NIAID NIDA

NIDCD

Institute: NCI - National Cancer Institute

Export Data

Top Topics

%	Topic	Topic Words	Title Words	Phrases
4.05	210	cancer cancer_center program cancer_research	cancer_center, program, cancer, core, spore, tra	anderson cancer_center, shared resource, canc
2.42	597	cancer tumor tumorigenesis tumors myc tumor_	cancer, tumorigenesis, myc, tumor_suppressor,	tumor progression, malignant transformation, tu
2.28	430	cancer treatment therapy patients tumor diseas	cancer, therapy, treatment, tumor, prostate, bre	cancer treatment, treatment cancer, metastatic
1.73	16	metastasis invasion tumor metastatic progressi	metastasis, cancer, invasion, breast, tumor, pro	tumor progression, invasion metastasis, cancer
1.47	345	clinical_trials trials oncology cancer treatment di	clinical_trials, clinical_oncology, oncology, unit, p	clinical_trials unit, phase_i clinical_trials, cancer
1.43	686	cancer breast cancers cancer_risk cancer_patien	breast, cancer, cancer_risk, women, cancer_sur	breast cancer, breast cancer_risk, breast cancer
1.41	370	tumor immunotherapy t_cells t_cell immunity an	tumor, immunotherapy, t_cell, immunity, t_cells,	antitumor immunity, adoptive immunotherapy, t
1.14	480	therapeutic agents treatment therapies targets	therapeutic, targeting, agents, treatment, thera	therapeutic agents, therapeutic targets, therap
1.08	346	biomarkers markers biomarker disease patients	biomarkers, biomarker, markers, disease, cance	disease progression, biomarker validation, seru
0.98	660	prostate cancer pca cancer_cells incap androgei	prostate, cancer, cancer_cells, androgen_recept	prostate cancer, prostate cancer_cells, prostate
0.90	171	scientific committee administrative management	core, administrative, administration, planning, a	steering committee, internal external, institutor
0.87	182	breast cancer her2 cancer_cells human mcf7 nei	breast, cancer, cancer_cells, her2, human, estr	breast cancer, breast cancer_cells, her2 neu, br
0.85	437	risk risk_factors cases cohort prospective high_u	risk, risk_factors, cancer, prospective, women, e	cases controls, prospective cohort_study, modif
0.85	23	tumor tumors tumor_growth mice treatment tun	tumor, tumors, cancer, tumor_growth, targeting	tumor regression, tumor burden, tumor progres
0.85	695	core statistical projects biostatistics investigat	core, biostatistics, data_management, bioinform	biostatistics core, projects core, data_managem
0.79	603	intervention interventions program prevention p	intervention, prevention, interventions, program	randomized_controlled trial, intervention reduce

<https://app.nihmaps.org>

NIH Topic Browser

Show Map Viewer ?

Export Data

Methods

Feedback

Topics by NIH Institute

Topics by Category

2009

?

add

delete

AND

▼

Exact Text

cancer

Search

Clear Search

2009 Grants (137)

Institutes (9)

Col	NIH Inst	Project/Subproj	Title	Investigator(s)	# 1 Topic	# 1 Topic Word	NIH Inst	# Grants	Count
	NCCR	3P20RR011792-10S2.6914	OBESITY, INSULIN RESISTANCE, IGF'S, AND BREAST CANCER RISK IN AFRICAN AMERICANS	CUI, YONG	686	cancer brea...	NCI	116	
	NCI	3R01CA120562-03S1	Commonly Used Medications and Breast Cancer Recurrence	BOUDREAU, DENISE M	686	cancer brea...	NCCR	10	
	NCI	5R01CA120562-03	Commonly Used Medications and Breast Cancer Recurrence	BOUDREAU, DENISE M	686	cancer brea...	NIEHS	5	
	NCI	5R01CA093772-06	Long-term Survivorship in Older Women with Early Stage Breast Cancer	SILLIMAN, REBECCA A	686	cancer brea...	NCMHD	1	
	NCI	5R01CA064277-11	Shanghai Breast Cancer Study	ZHENG, WEI	686	cancer brea...	NIA	1	
							NCCAM	1	
							NICHD	1	
							NINR	1	
							NHGRI	1	

Topics

Similar Grants

Show Top 100 on Map

%	Topic	Topic Words	Title Words	Similar	NIH Inst	Grant
25.91	686	cancer breast cancers cancer_risk cancer_patients	breast, cancer, ca	6.51	NCI	1R01CA129639-01A2 Genome-Wide Association Study of Radiation Exposure and Bilateral Breast Cancer PI: BERNSTEIN, JONINE LISA
3.86	437	risk risk_factors cases cohort prospective high_ris	risk, risk_factors,	6.46	NCI	1K07CA136758-01A1 Genetic variants in the F13K pathway in mammographic density and breast cancer PI: THOMPSON, CHERYL L.
3.76	544	snps snp genome_wide_association cases genes	genome_wide_ass	6.31	NCI	5P50CA116199-05 UTMADCC SPORE in Breast Cancer PI: HORTOBAGYI, GABRIEL N.
3.70	173	genetic genes risk susceptibility polymorphisms	genetic, genetics,	6.02	NCI	2R01CA050385-21A1 Risk Factors for Breast Cancer in Younger Nurses PI: WILLETT, WALTER C.
2.62	252	treatment patients management patient outcom	management, trea	4.6	NCI	5R01CA127617-02 Who Cares For Older Breast Cancer Survivors And How Does It Affect Quality? PI: MANDELBLATT, JEANNE
1.64	235	conference meeting workshop symposium scienti	th, conference, sy			
1.63	351	community implementation community_based he	community, preve			
1.54	325	million disease treatment united_states public_h	disease, treatmen			
1.51	580	training candidate career skills applicant program	treatment, depres			

<https://app.nihmaps.org>

3P20RR011792-10S2 6914 [Map Viewer](#) [Topic Browser](#) [Export Data](#) [Methods](#) [Feedback](#)

2009 NCCR CUI, YONG [NIH RePORTer](#) [Map Similar Grants](#) [Highlight on Map](#) [Show Parent/Other Subs](#)

OBESITY, INSULIN RESISTANCE, IGF'S, AND BREAST CANCER RISK IN AFRICAN AMERICANS

The purpose of this study is to better understand how lifestyle factors and their interaction with genetic factors influence a women's risk of developing breast cancer. In order to learn more about the causes of breast cancer, we need to compare the lifestyles of people who have breast cancer with those who do not. 600 women are expected to be enrolled.

Top Topics

50.00	686	cancer breast cancers cancer_risk cancer_patients women cancer_survival
11.54	378	african_american white ethnic racial african_americans black race white
11.54	548	obesity weight bmi obese overweight weight_loss body_mass_index kg

Tags

NIH Reporting Categories
Breast Cancer... Cancer... Obesity

NIH Concept Keywords
African American... cancer risk... Clinical Research... Computer Retrieval of Information on

Similar Grants

Similar	Co	NIH Insti	Project/Subprojec	Title	Investigator(s)	#1 Topic	#1 Topic Words
0.54		NCI	3K22CA127519-03S1	Beyond Adiposity: Insulin and Inflammation in Postmenopausal Breast Cancer	NUNEZ, NOMEI PANIAGUA	686 (33%)	cancer breast...
0.54		NCI	5K22CA127519-03	Beyond Adiposity: Insulin and Inflammation in Postmenopausal Breast Cancer	NUNEZ, NOMEI PANIAGUA	686 (33%)	cancer breast...
0.48		NCI	5R01CA128799-02	Mechanisms for Increased Breast Cancer Risk in Type 2 Diabetes	LEROITH, DEREK	66 (17%)	diabetes diab...
0.48		NCI	3P30CA013696-36S2 0007	BREAST CANCER RESEARCH	PARSONS, RAMON E	210 (40%)	cancer cancer...
0.48		NCI	3P30CA013696-36S3 0007	BREAST CANCER RESEARCH	PARSONS, RAMON E	210 (40%)	cancer cancer...

<https://app.nihmaps.org>

NIH Map Viewer [Show Topic Browser](#) [Export Data](#) [Methods](#) [Feedback](#)

2009 ? [add](#) [delete](#) AND [Related Grants](#) 7960745 [Top 100](#) [Search](#) [Clear Search](#)

Institutes (3)

NIH Insti	# Grants	Count
NCI		94
NCCR		6
NCMHD		1

Topics

%	Title Words
14.7%	breast, cancer, cancer_risk, women, cancer_survival
11.0%	breast, mammography, mammographic, cancer
9.60%	risk, risk_factors, cancer, prospective, women,
3.23%	genome_wide_association, loci, genome_wide,
2.21%	genetic, genetic_testing, gene, gene_environment

Grants (101)

NIH Insti	Grant
NCCR	3P20RR011792-10S2 6914 OBESITY, INSULIN RESISTANCE, IGF'S, AND BREAST CANCER RISK IN AFRICAN AMERICANS PI: CUI, YONG
NCI	3R01CA120562-03S1 Commonly Used Medications and Breast Cancer Recurrence PI: BOUDREAU, DENISE M
NCI	5R01CA120562-03 Commonly Used Medications and Breast Cancer Recurrence PI: BOUDREAU, DENISE M
NCI	5R01CA093772-06 Long-term Survivorship in Older Women with Early Stage Breast

Powered by **ChalkLabs**

<https://app.nihmaps.org>

R+D Dashboard Tracking our progress. Leading the world in scientific and technological innovation.
BETA

Home Investments **Outputs** About Contact

Publications

Discover Publications by clicking on map or using the options below.

Illinois

NIHNSF

Year(s): 2000-2009

Refine results by selecting institutions or topics:

Top Research Institutions

- University of Illinois at Urbana-Champaign
- Northwestern University
- University of Chicago
- RUSH UNIVERSITY MEDICAL CENTER
- LOYOLA UNIVERSITY CHICAGO
- Southern Illinois University at Carbondale

Top Topics

Download selected data as CSV

USA View Highlight selected area Map

EVANSTON, NORTH CHICAGO, GLENCOE and 11 neighboring areas (zoom for detail).

Top Institutions:

- Northwestern University
- ROSALIND FRANKLIN UNIV OF MEDICINE & SCI
- NORTHSHORE UNIV HEALTHSYSTEM RES INST
- EVANSTON NORTHWESTERN HEALTHCARE RES INS
- EVANSTON HOSPITAL

Show 100 entries Search:

Year	Publication Number	Grant Number	Federal Agency	Receiving Institution
2009	PMID 19129223	1R01HL094585-01	NIH	CHILDREN'S MEMORIAL HOSPITAL

<http://rd-dashboard.nitrd.gov/pub.html>

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R+D Dashboard Tracking our progress. Leading the world in scientific and technological innovation.
BETA

Home Investments **Outputs** About Contact

Publications

Discover Publications by clicking on map or using the options below.

Illinois

National Science Foundation

Year(s): 2000-2009

Refine results by selecting institutions or topics:

Top Research Institutions

Top Topics

- climate model atmospheric data global
- flow fluid transport wave dynamic
- optical laser light high system
- economic policy market decision public
- technology engineering team technologies

Download selected data as CSV

USA View Highlight selected area Map

EVANSTON, NORTH CHICAGO, GLENCOE and 11 neighboring areas (zoom for detail).

Top Institutions:

- Northwestern University
- ROSALIND FRANKLIN UNIV OF MEDICINE & SCI
- NORTHSHORE UNIV HEALTHSYSTEM RES INST
- EVANSTON NORTHWESTERN HEALTHCARE RES INS
- EVANSTON HOSPITAL

Select multiple topics by clicking on each topic; to de-select, click again.

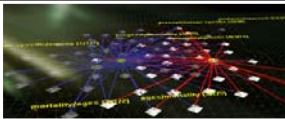
Show 100 entries Search:

Year	Publication Number	Grant Number	Federal Agency	Receiving Institution
2009	PUB 5767715	0848647	NSF	American Bar Foundation

40

S&T Studies Using Semantic Web Data

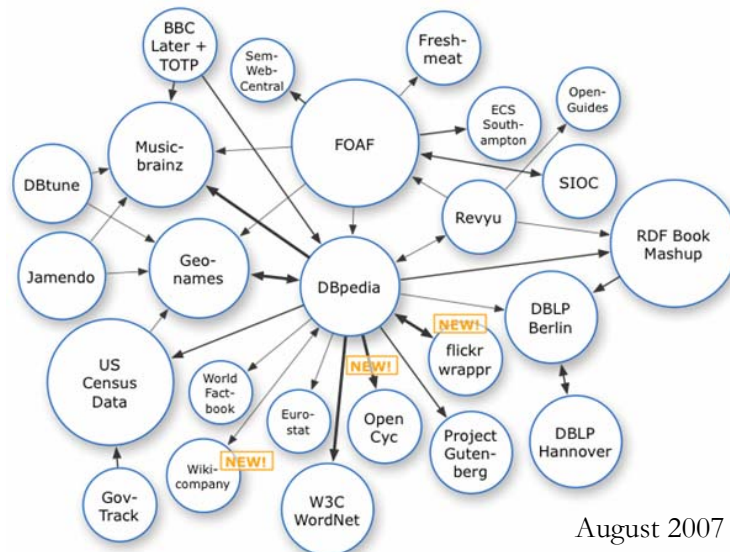
41



Linked Open Data

- Interlinking existing data silos and
- Exposing them as structured data
- Adding new high quality data relevant for S&T studies

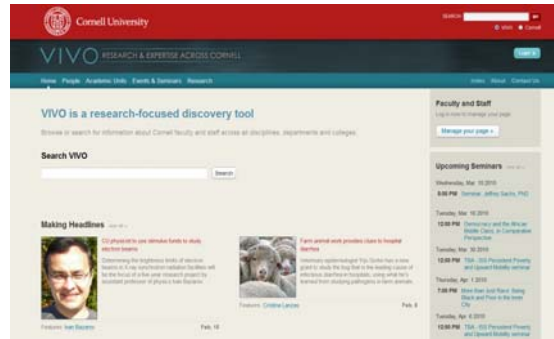
<http://linkeddata.org>



42

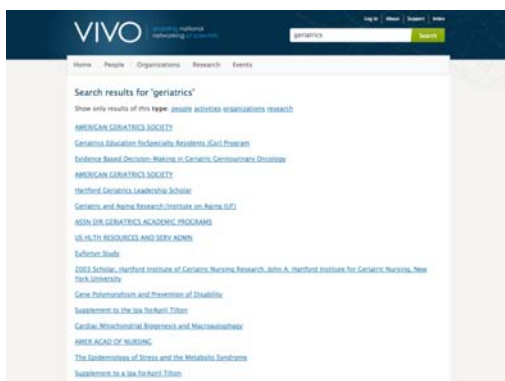
VIVO: A Semantic Approach to Creating a National Network of Researchers (<http://vivoweb.org>)

- Semantic web application and ontology editor originally developed at Cornell U.
- Integrates research and scholarship info from systems of record across institution(s).
- Facilitates research discovery and cross-disciplinary collaboration.
- Simplify reporting tasks, e.g., generate biosketch, department report.



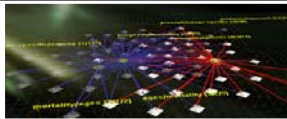
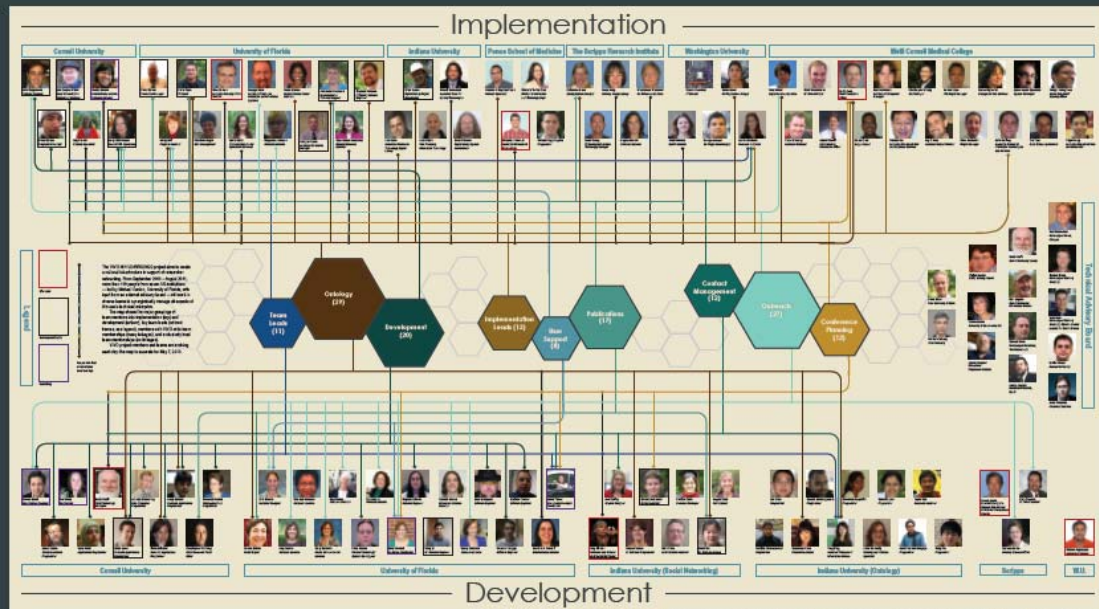
Funded by \$12 million NIH award.

Cornell University: Dean Krafft (Cornell PI), Manolo Bevia, Jim Blake, Nick Cappadona, Brian Caruso, Jon Corson-Rikert, Elly Cramer, Medha Devare, John Ferreira, Brian Lowe, Stella Mitchell, Holly Mistlebauer, Anup Sawant, Christopher Westling, Rebecca Younes. **University of Florida:** Mike Conlon (VIVO and UF PI), Cecilia Botero, Kerry Britt, Erin Brooks, Amy Buhler, Ellie Bushhousen, Chris Case, Valrie Davis, Nita Ferree, Chris Haines, Rae Jesano, Margeaux Johnson, Sara Kreinest, Yang Li, Paula Markes, Sara Russell Gonzalez, Alexander Rockwell, Nancy Schaefer, Michele R. Tennant, George Hack, Chris Barnes, Narayan Raam, Brenda Stevens, Alicia Turner, Stephen Williams. **Indiana University:** Katy Borner (IU PI), William Barnett, Shanshan Chen, Ying Ding, Russell Duhon, Jon Dunn, Micah Linnemeier, Nianli Ma, Robert McDonald, Barbara Ann O'Leary, Mark Price, Yuyin Sun, Alan Walsh, Brian Wheeler, Angela Zoss. **Ponce School of Medicine:** Richard Noel (Ponce PI), Ricardo Espada, Damaris Torres. **The Scripps Research Institute:** Gerald Joyce (Scripps PI), Greg Dunlap, Catherine Dunn, Brant Kelley, Paula King, Angela Murrell, Barbara Noble, Cary Thomas, Michaelen Trimarchi. **Washington University, St. Louis:** Rakesh Nagarajan (WUSTL PI), Kristi L. Holmes, Sunita B. Koul, Leslie D. McIntosh. **Weill Cornell Medical College:** Curtis Cole (Weill PI), Paul Albert, Victor Brodsky, Adam Cheriff, Oscar Cruz, Dan Dickinson, Chris Huang, Itay Klaz, Peter Michelini, Grace Migliorisi, John Ruffing, Jason Specland, Tru Tran, Jesse Turner, Vinay Varughese.

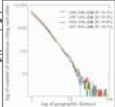
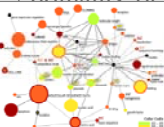


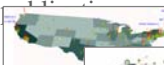
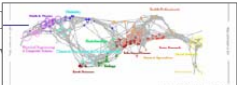
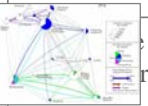


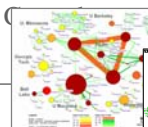



VIVO Enabling National Networking of Scientists

Project Members and Teams



Type of Analysis vs. Level of Analysis

	Micro/Individual (1-100 records)	Meso/Local (101-10,000 records)	Macro/Global (10,000 < records)
Statistical Analysis/Profiling	Individual person and their expertise profiles	Larger labs, centers, universities, research domains or states	All of NSF, SA, all of science 
Temporal Analysis (When)	Funding portfolio of one individual	Topic bursts of PNAS 	113 Years of PNAS Research 
Geospatial Analysis (Where)	Career trajectory of one individual	Mapping a scientist's intellectual landscape 	PNAS 
Topical Analysis (What)		Flows in research 	VxOrd/Topic in NIH funding 
Network Analysis (With Whom?)	NSF one  work of	Network 	NIH's  agency

How do you want to compare?

by Grants

Who do you want to compare?

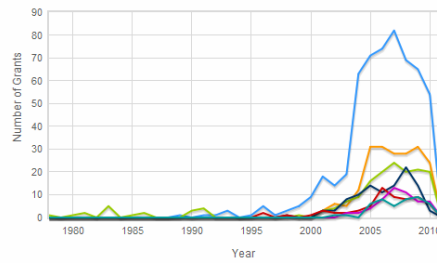
Search: X

Records 1 - 10 of 30 < First < Prev Next > Last >

Entity Label	Grant Count	Entity Type
<input checked="" type="checkbox"/> Continuing Education	562	UF Department, Agent, Non-Academic Department, Department
<input checked="" type="checkbox"/> Florida Museum of Natural History	203	Museum, Agent
<input checked="" type="checkbox"/> College of Agricultural and Life Sciences	166	Agent, UF College, College
<input checked="" type="checkbox"/> College of Engineering	103	Agent, UF College, College
<input checked="" type="checkbox"/> Evelyn F. and William L. McKnight Brain Institute of the University of Florida	64	UF Center, Agent, Center
<input checked="" type="checkbox"/> International Center	54	UF Department, Agent, Non-Academic Department, Department
<input checked="" type="checkbox"/> Florida Sea Grant	44	UF Center, Agent, Center
<input type="checkbox"/> Whitney Laboratory for Marine Bioscience	42	UF Research Laboratory, Agent, Laboratory, Research Laboratory
<input type="checkbox"/> Water Institute	38	UF Center, Agent, Center
<input type="checkbox"/> College of Dentistry	35	Agent, UF College, College

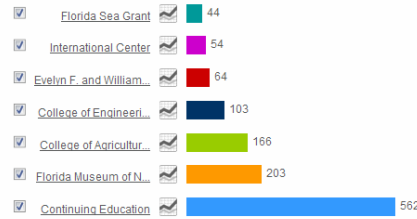
Save as CSV Clear

Comparing Grants of Organizations in University of Florida

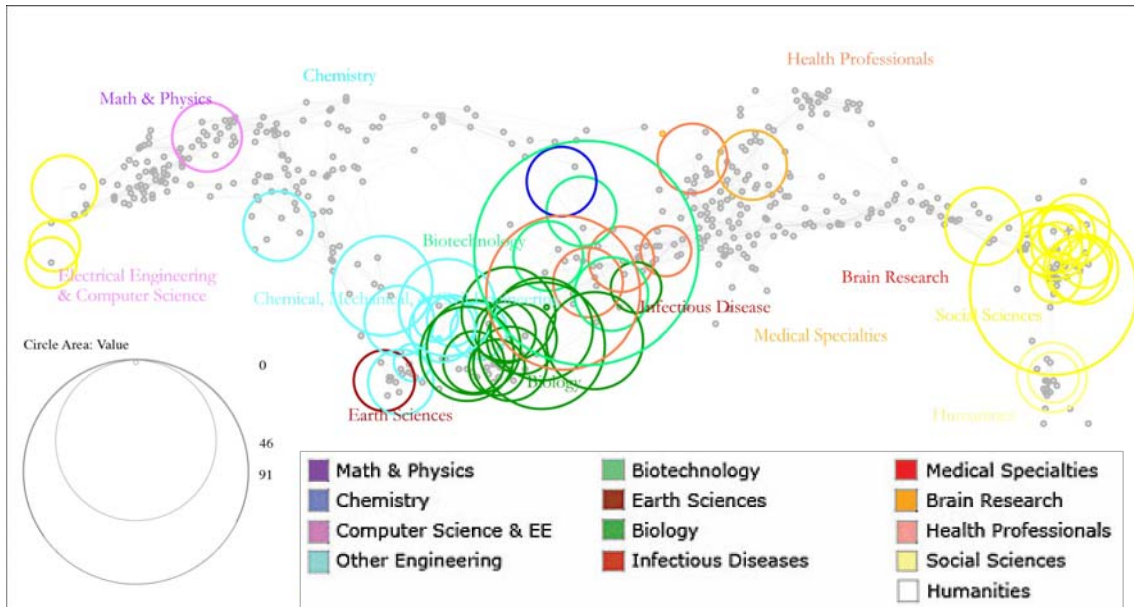


Total Number of Grants

You have selected 7 of a maximum 10 organizations to compare. Clear



Temporal Analysis (When) Temporal visualizations of the number of papers/funding award at the institution, school, department, and people level



Topical Analysis (What) Science map overlays will show where a person, department, or university publishes most in the world of science. (in work)

Co-Author Network (GraphML File)

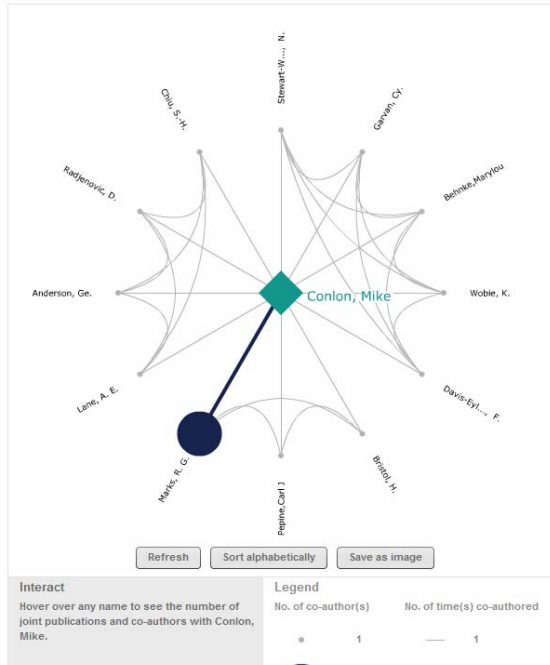
Profile

Conlon, Mike Associate Director and Chief O...

VIVO profile | Co-author network

- 5 Publication(s)
- 12 Co-author(s)
- 1991 First Publication
- 2004 Last Publication

Note: This information is based solely on publications which have been loaded into the VIVO system. This may only be a small sample of the person's total work.



Network Analysis (With Whom?) Who is co-authoring, co-investigating, co-inventing with whom? What teams are most productive in what projects?

Firefox browser window showing an RDF file. The address bar contains: `https://vivo.ufl.edu/individual/n25562/n25562.rdf`. The page content displays XML code for an RDF graph:

```

- <rdf:RDF>
- <rdf:Description rdf:about="http://vivo.ufl.edu/individual/n56206">
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  <rdf:type rdf:resource="http://www.w3.org/2002/07/owl#Thing"/>
  <rdf:type rdf:resource="http://vivoweb.org/ontology/core#Role"/>
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  <j.3:memberRoleOf rdf:resource="http://vivo.ufl.edu/individual/n25562"/>
  <j.3:startYear rdf:datatype="http://www.w3.org/2001/XMLSchema#Year">1997</j.3:startYear>
</rdf:Description>
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  <rdf:type rdf:resource="http://vivoweb.org/ontology/core#MemberRole"/>
  <j.3:roleIn rdf:resource="http://vivo.ufl.edu/individual/n52513"/>
  <j.3:memberRoleOf rdf:resource="http://vivo.ufl.edu/individual/n25562"/>
  <j.3:startYear rdf:datatype="http://www.w3.org/2001/XMLSchema#Year">1980</j.3:startYear>
</rdf:Description>
- <rdf:Description rdf:about="http://vivo.ufl.edu/individual/n25562">
  <j.3:featuredIn rdf:resource="http://vivo.ufl.edu/individual/n6868"/>
  <j.3:featuredIn rdf:resource="http://vivo.ufl.edu/individual/n3884"/>

```

Home Index About Search

Networks and Complex Systems Research at Indiana University

This VIVO instance provides information on networks and complex systems

- [Faculty](#) and their [departments](#)
- [Publications](#)
- [Grants](#)
- [Courses](#)

at Indiana University. The site was created in support of a NSF IGERT grant application. A major intent is to cross-fertilize between research done in the social and behavioral sciences, research in natural sciences such as biology or physics, but also research on Internet technologies.

The site will be continuously updated to help

- New faculty to get in contact with relevant researchers.
- Faculty and policy makers to pool teams in response to funding solicitations.
- Faculty to coordinate research efforts – collaborations using existing funding/resources.
- Faculty to coordinate teaching.
- Students identify relevant courses, potential advisors, funding.
- Organize the Mon talk series on [Networks and Complex Systems](#).
- Arrange research meetings for visitors with relevant faculty/students

<http://vivo-netsci.cns.iu.edu>

53

Co-Investigator Network ([GraphML File](#))

Profile

Daniels, Michael Joseph
PROFESSOR

[VIVO profile | Co-investigator network](#)

- 17 Grant(s)
- 27 Co-investigator(s)
- 2003 First Grant
- 2010 Last Grant

Note: This information is based solely on grants which have been loaded into the VIVO system. This may only be a small sample of the person's total work.

Refresh Sort alphabetically Save as image

Interact	Legend	
Hover over any name to see the number of joint grants and co-investigators with Daniels, Michael Joseph.	No. of co-Investigator(s)	No. of time(s) co-investigated
	1	1
	7	7

Sorted into communities: Co-investigators are placed near one another if they frequently co-investigate grants.

54

Borner, Katy
Person

This information is based solely on publications which have been indexed into the VIVO system. This may only be a small sample of the person's total work.

General Statistics

- 35 publication(s) from 2001 to 2010 [\(.CSV File\)](#)
- 87 co-author(s) from 2001 to 2010 [\(.CSV File\)](#)

Co-Author Network [\(GraphML File\)](#)

Legend

No. of publications: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Interact

Hover over any name to see the number of self-publications and co-author(s) with Borner, Katy. Click on names to see details on the right.

Thresholding

Only people that co-authored more than 1 paper(s) with Borner, Katy are shown.

Sorted into communities: Co-authors are placed into one or another of 10 frequently-occurring clusters with each other and each other's co-authors in the graph.

Tables

Publications per year [\(.CSV File\)](#)

Year	Count
2001	2
2002	4
2003	2
2004	7
2005	7
2006	3
2007	10

Co-author(s) [\(.CSV File\)](#)

Year	Count	Co-Author(s)
2001	1	Chen C.
2002	3	Chen C.; McMahon T.; Feng Y.
2003	2	Chen C.; Boyack K.W.
2004	17	Sengupta A.; Penumathy S.; Thakur S.; Sooriamurthi R.; Maru J.T.; Shiffin R.M.; Mane K.; Moor K.A.

Data Download Support

General Statistics

- 36 publication(s) from 2001 to 2010 [\(.CSV File\)](#)
- 80 co-author(s) from 2001 to 2010 [\(.CSV File\)](#)

Co-Author Network

[\(GraphML File\)](#)

Save as Image (.PNG file)

Tables

- Publications per year [\(.CSV File\)](#)
- Co-authors [\(.CSV File\)](#)

36 publication(s) from 2001 to 2010 [\(.CSV File\)](#)

Year	Publications
2001	2
2002	4
2003	2
2004	7
2005	7
2006	3
2007	10
2010	1

80 co-author(s) from 2001 to 2010 [\(.CSV File\)](#)

Year	Count	Co-Author(s)
2001	1	Chen C.
2002	3	Chen C.; McMahon T.; Feng Y.
2003	2	Chen C.; Boyack K.W.
2004	17	Sengupta A.; Penumathy S.; Thakur S.; Sooriamurthi R.; Maru J.T.; Shiffin R.M.; Mane K.; Moor K.A.

Co-author network [\(GraphML File\)](#)

```

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3   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4   xsi:schemaLocation="http://graphml.graphdrawing.org/xmlns
5     http://graphml.graphdrawing.org/xmlns/1.0/graphml.xsd">
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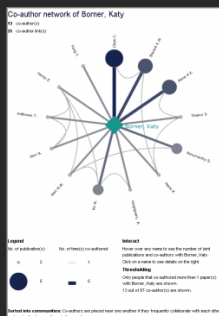
```

Save as Image (.PNG file)

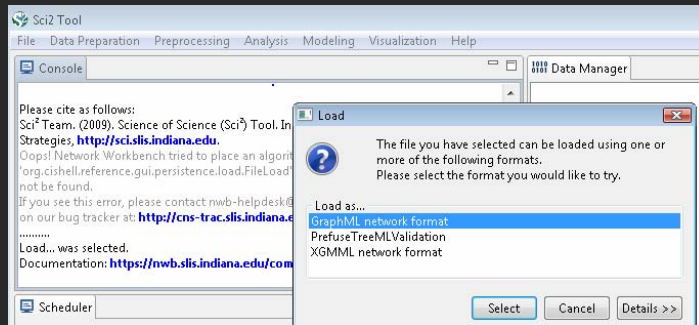
Publications per year [\(.CSV File\)](#), see top file.

Co-authors [\(.CSV File\)](#)

Co-Author	Count
Andrienko G.	1
Andrienko N.	1
Ben-Miled Z.	1
Blackwell A.	1
Boyack K.W.	4
Bozicevic M.	1
Brodbeck D.	1
Burkhard R.A.	1
Chen C.	5

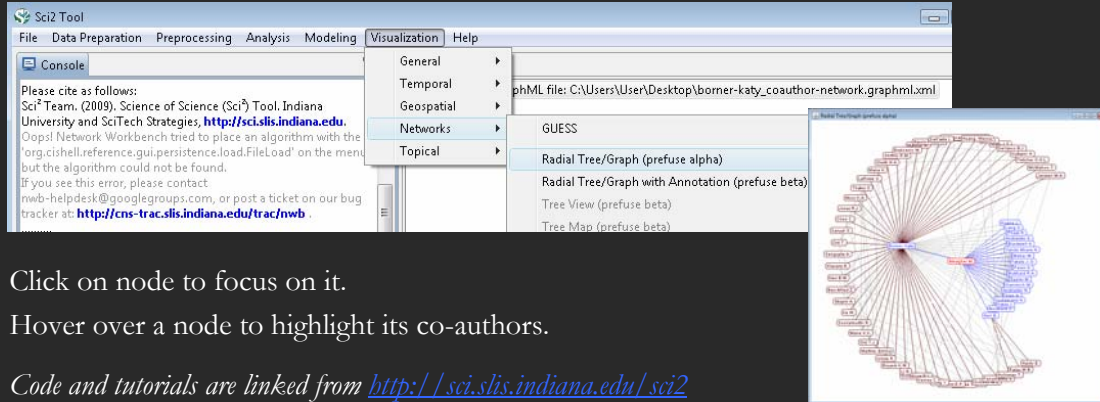


Run Science of Science (Sci2) Tool and load Co-Author Network ([GraphML File](#))



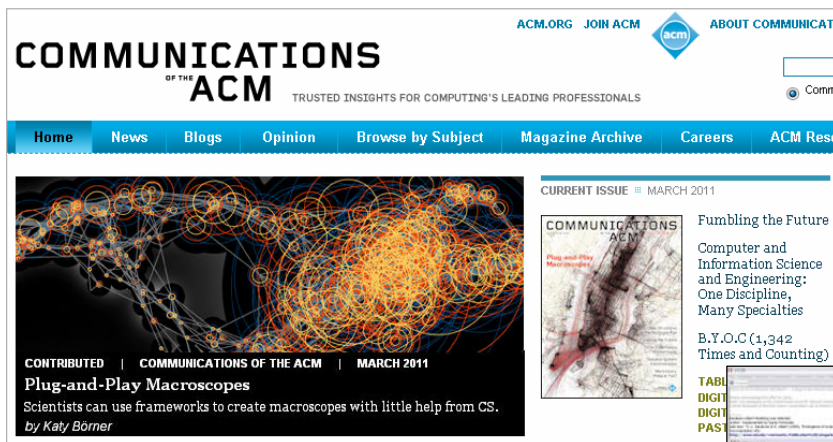
Network Analysis Toolkit
Nodes: 81
Edges: 390

Visualize the file using Radial Graph layout.




Click on node to focus on it.
Hover over a node to highlight its co-authors.

Code and tutorials are linked from <http://sci.slis.indiana.edu/sci2>



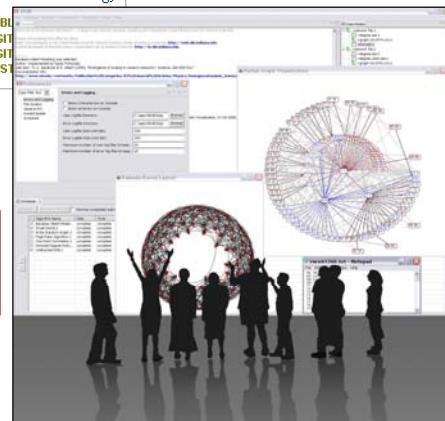
<http://cacm.acm.org>

 Information Visualization Cyberinfrastructure
<http://iv.cns.iu.edu>

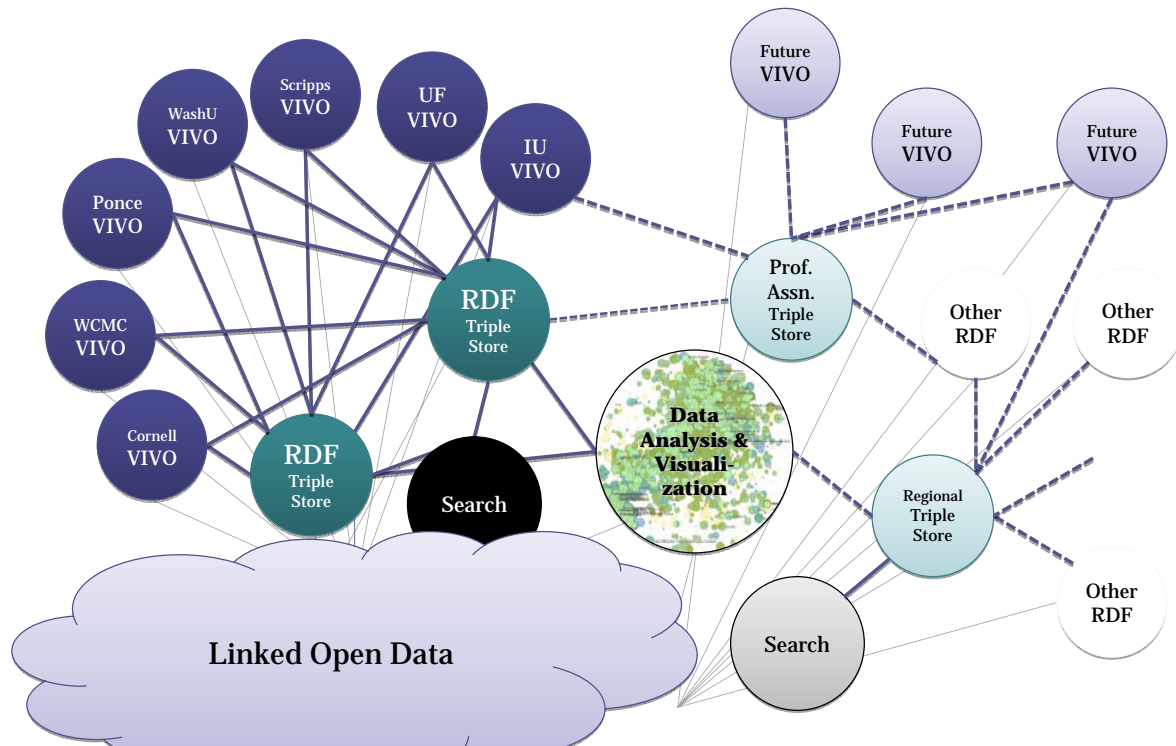
 Network Workbench Tool & Community Wiki
<http://nwb.cns.iu.edu>

 Science of Science (Sci²) Tool and CI Portal
<http://sci2.cns.iu.edu>

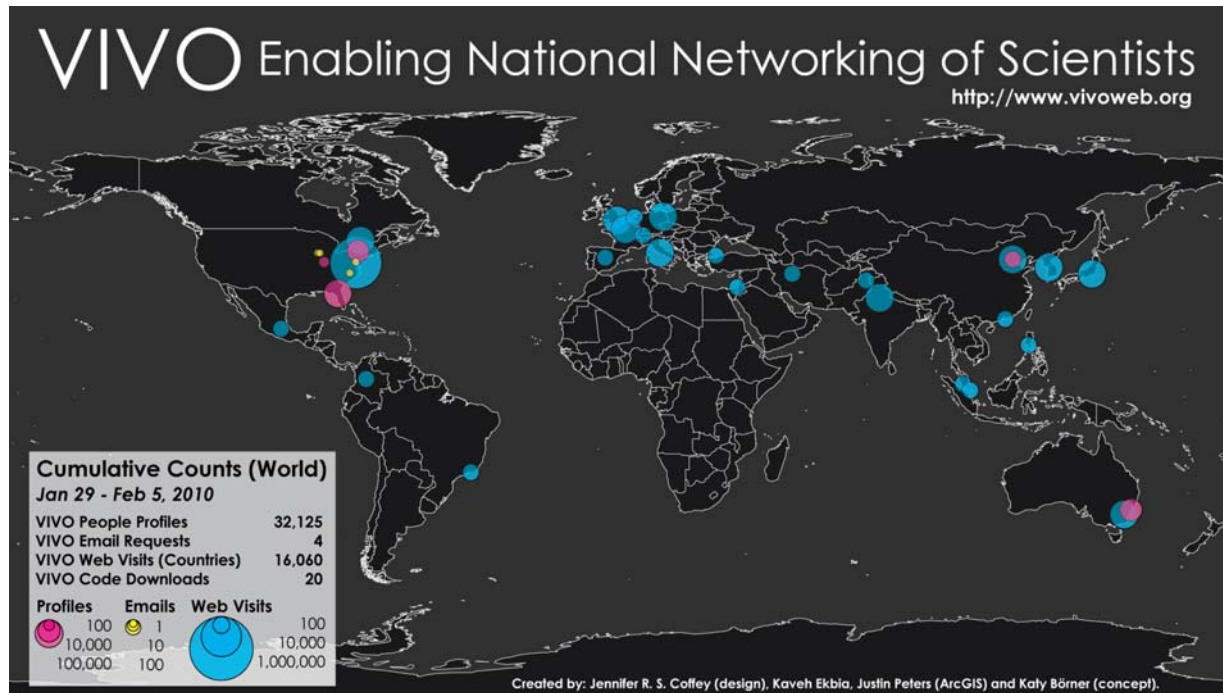
 Epidemics Cyberinfrastructure
<http://epic.cns.iu.edu>



VIVO National Level Visualizations



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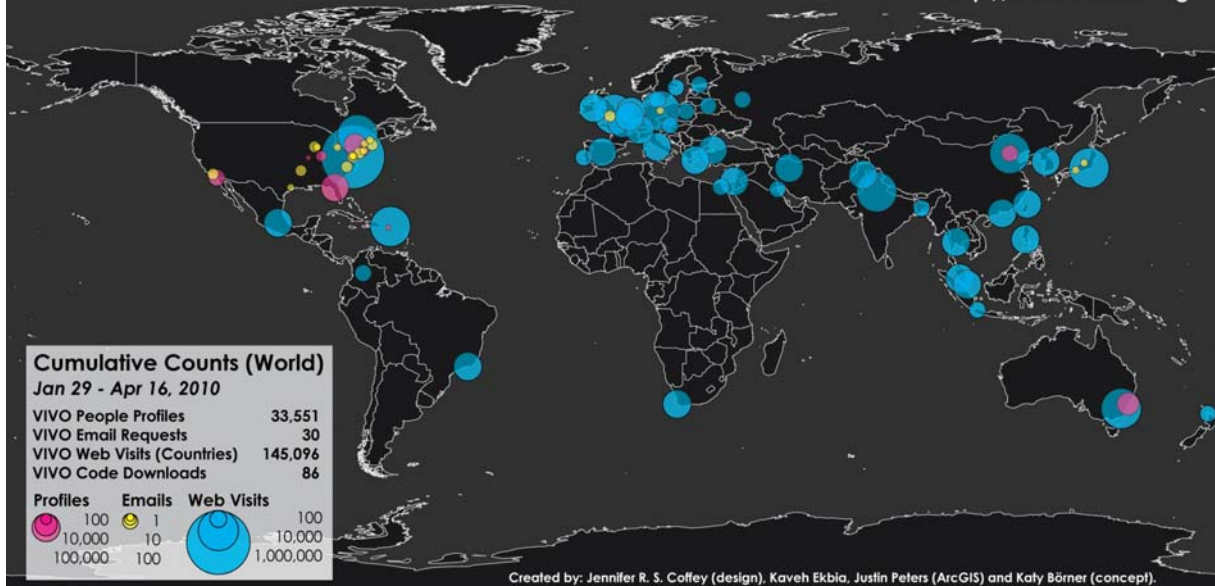
Science is global. World view of VIVO activity.
Web site visits are aggregated at the country level.

Geospatial Analysis (Where) Where is what science performed by whom? Science is global and needs to be studied globally. (in work)

60

VIVO Enabling National Networking of Scientists

<http://www.vivoweb.org>



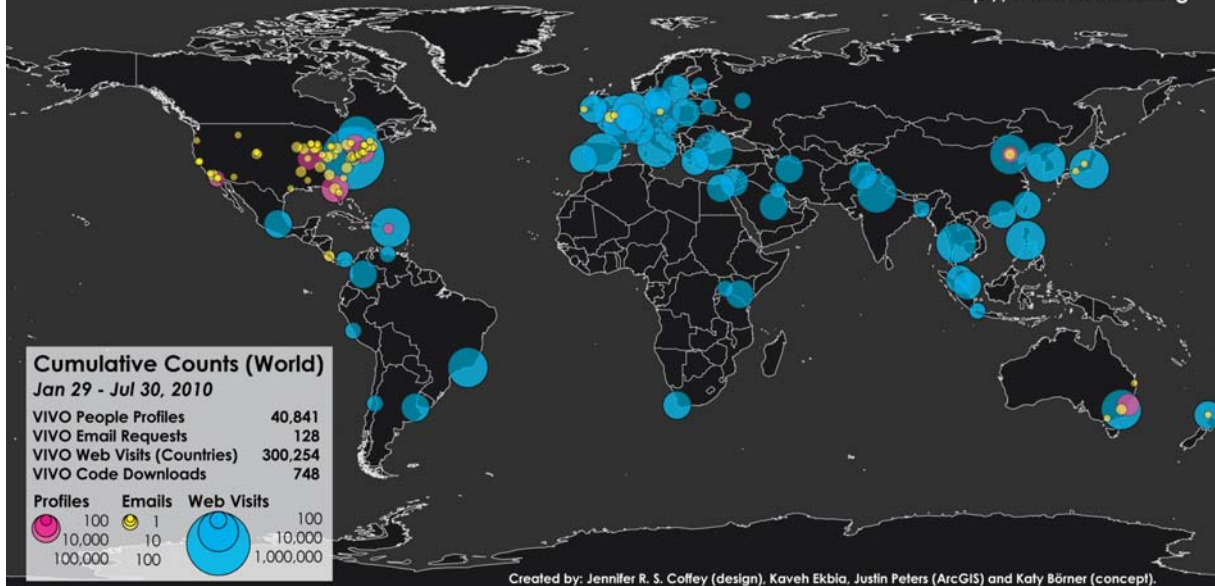
Shown are the

- Number of people profiles in the 7 different VIVO installation sites plus CAS and U Melbourne.
 - Email contacts by data and service providers as well as institutions interested to adopt VIVO.
 - The number of visitors on <http://vivoweb.org>
- Circles are area size coded using a logarithmic scale.

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VIVO Enabling National Networking of Scientists

<http://www.vivoweb.org>



VIVO 1.0 source code was publicly released on April 14, 2010

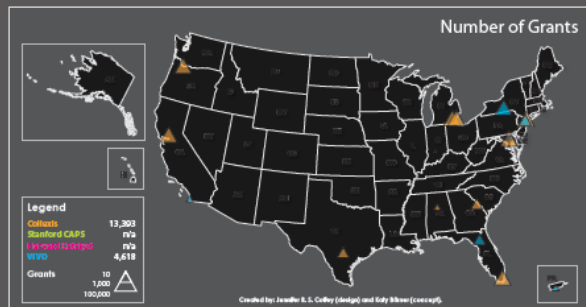
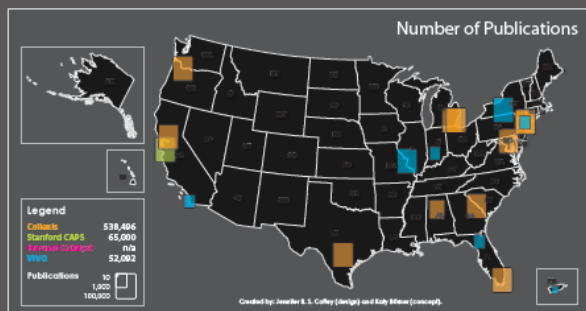
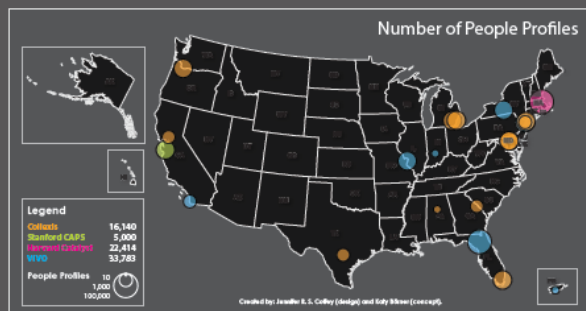
87 downloads by June 11, 2010.

The more institutions adopt VIVO, the more high quality data will be available to understand, navigate, manage, utilize, and communicate progress in science and technology.

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National Research Networking (NRN) Activity Visualization

VIVO
Enabling a National
Network of Scientists



Federated Search University of Florida

Search Term: Search

Results for "cancer".

University of Florida 29 People
UF VIVO contains all 6,900 faculty and 7,600 full-time staff of the University of Florida, as well as award information for all grants; UF students, affiliates and employees of Shands HealthCare can request to be added.

Cornell University 200 People
Participants in the VIVO National Network include institutions with local installations of VIVO or those with research discovery and profiling applications that can connect to the network's infrastructure data.

<http://vivoexperts.ctsi.ufl.edu>



Second Annual VIVO Conference

August 24-26, 2011

Gaylord National, Washington D.C.

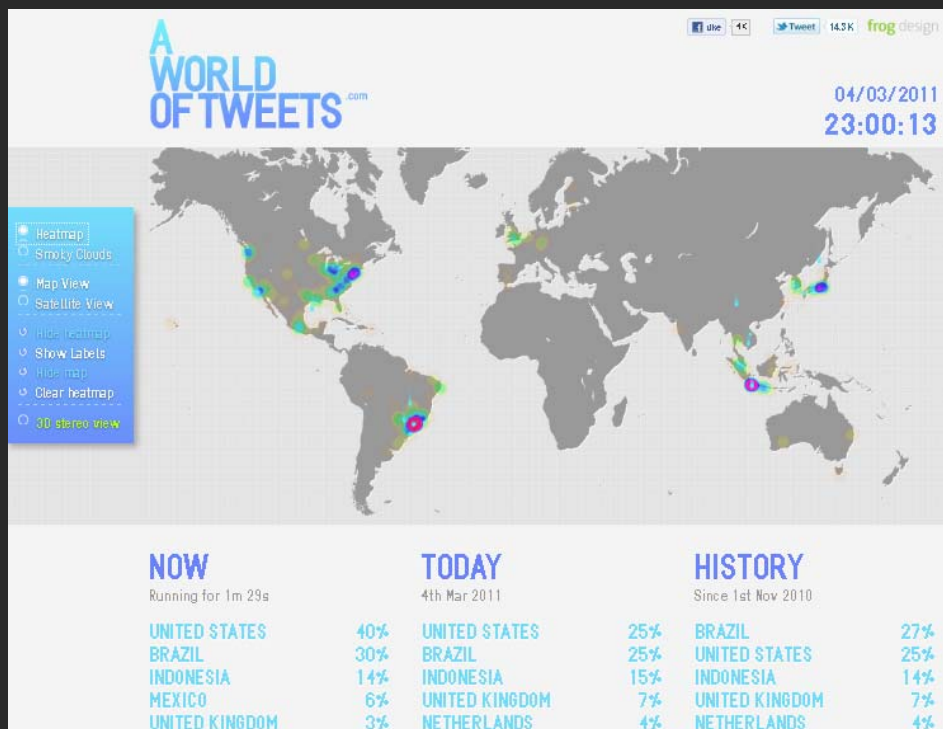
<http://vivoweb.org/conference>



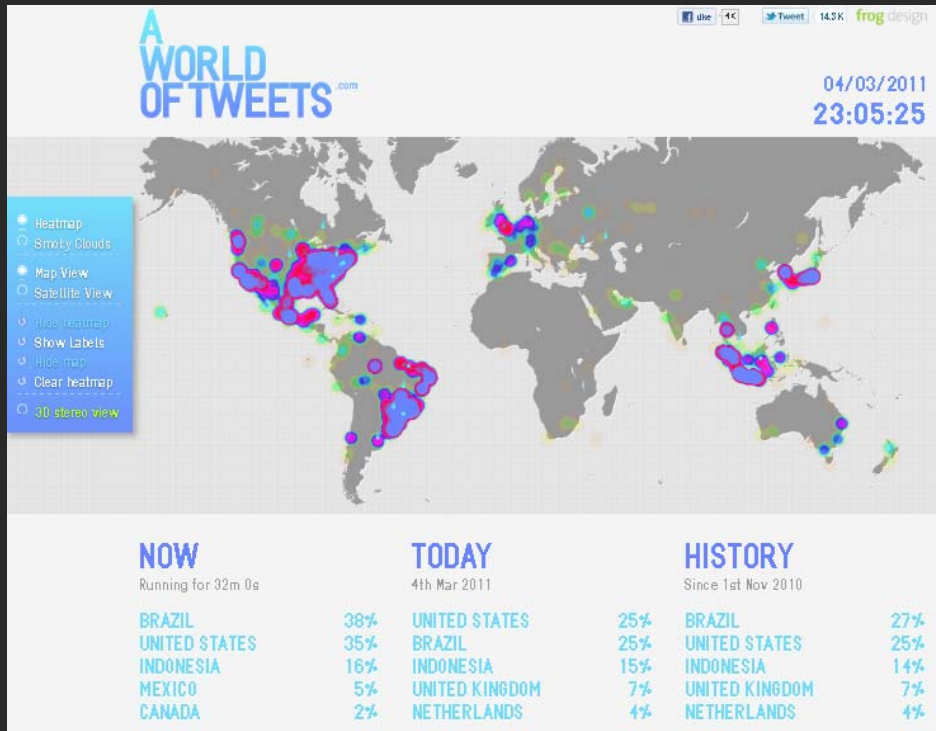
VIVO is supported by NIH Award U24 RR029822

Future Developments:

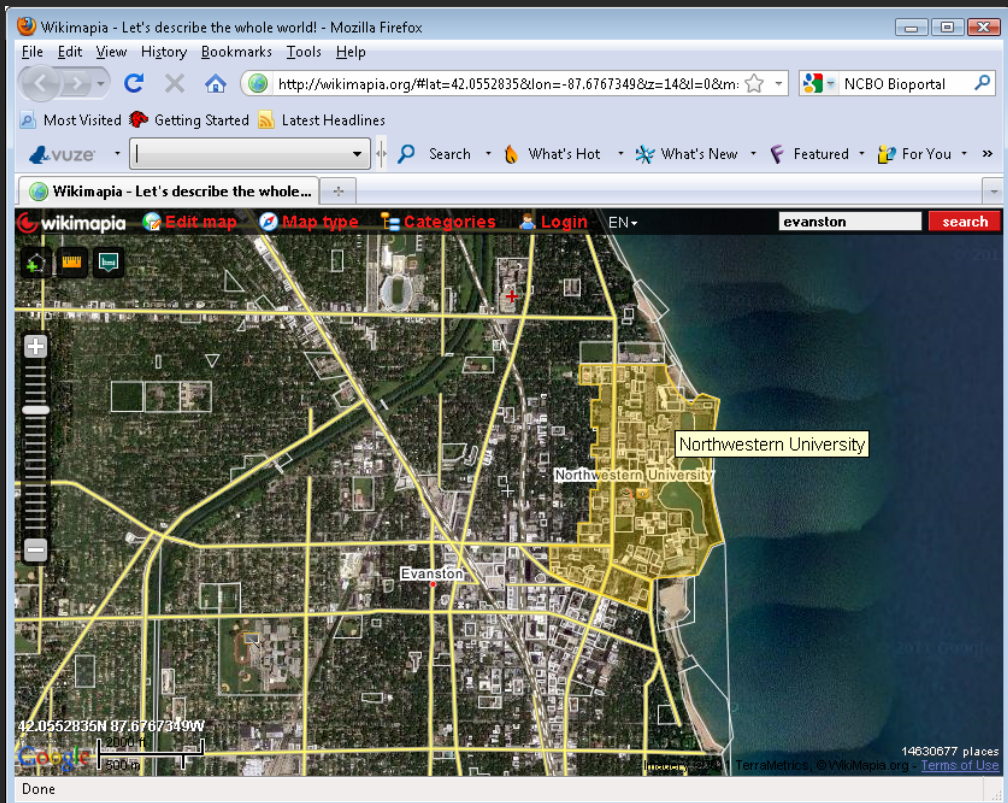
- Mapping real-time data
- Community annotation & data marketplaces
- S&T broadcasts and forecasts



<http://aworldoftweets.frogdesign.com>



<http://aworldoftweets.frogdesign.com>



<http://wikimapia.org>

OpenStreetMap

View Edit History Export GPS Traces User Diaries [log in](#) | [sign up](#)

Search Results [Close](#)

Results from [OpenStreetMap](#)
[Nominatim](#)

- Administrative Boundary [Evanston, Uinta County, Wyoming, United States of America](#)
- Town [Evanston, Cook, Illinois, United States of America](#)
- Town [Evanston, Uinta, Wyoming, United States of America](#)
- Hamlet [Evanston, Hancock, Tennessee, United States of America](#)
- Hamlet [Evanston, Spencer, Indiana, United States of America](#)
- Hamlet [Evanston, George, Mississippi, United States of America](#)
- Hamlet [Evanston, Breathitt, Kentucky, United States of America](#)
- Hamlet [Evanston, Clay, Missouri, United States of America](#)
- Hamlet [Evanston, Hamilton, Ohio, United States of America](#)
- Hamlet [Evanston, Webster, Iowa, United States of America](#)

[More results](#)

Results from [GeoNames](#)

- [Evanston, United States](#)
- [City of Evanston, United States](#)
- [City of Evanston, United States](#)
- [Evanston Township, United States](#)

The Free Wiki World Map

OpenStreetMap is a free editable map of the whole world. It is made by people like you.

OpenStreetMap allows you to view, edit and use geographical data in a collaborative way from anywhere on Earth.

OpenStreetMap's hosting is kindly supported by the [UCL VR Centre](#) and [bytemark](#). Other supporters of the project are listed in the [wiki](#).

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Documentation
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Community Blogs
Foundation
Map Key

Search [Where am I?](#)

examples: 'Aikmaaf', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' [more examples...](#)

<http://openstreetmap.org>

home about login search help casa

MAPTUBE®
a place to put maps

Welcome to MapTube

MapTube is a free resource for viewing, sharing, mixing and mashing maps online. Created by UCL's Centre for Advanced Spatial Analysis, users can select any number of maps to overlay and view.

QuickStart

Click any map below to view it. To select a combination of maps, use the Search page. More information is available in the Help section.

Featured Map

Happy 3rd Birthday

MapTube is three years old and has just passed the 1000 maps milestone.

To celebrate this, over the coming month we will be adding a new map creation service to make it easy to create maps from data in CSV files.

All Population Education Health Crime Transport Politics Economic

Showing records 121 to 132 of 132:

Order by: [Most Popular Maps](#) - [Recently Viewed](#) - [Latest Uploads](#)

UV04 Age 90 to 94 years

UV04 - Age 90 to 94 years
[more information](#)
 Viewed 16 times

Phoenix Population Density: People per Square Mile

Population density for Phoenix from the 2000 US Census at the Census Tract level. The units are people per square mile.

<http://www.maptube.org>

home about login search help casa

MAPTUBE a place to put maps

Link to this map

KML Map Satellite Terrain

The 21 Output Area Classification Groups

- 1a - Terraced Blue Collar
- 1b - Younger Blue Collar
- 1c - Older Blue Collar
- 2a - Transient Communities
- 2b - Settled in the City
- 3a - Village Life
- 3b - Agricultural
- 3c - Accessible Countryside
- 4a - Prospering Younger Families
- 4b - Prospering Older Families
- 4c - Prospering Semis
- 4d - Thriving Suburbs
- 5a - Senior Communities
- 5b - Older Workers
- 5c - Public Housing
- 6a - Settled Households
- 6b - Least Divergent

Google search the map Search

Map data ©

<http://www.maptube.org>

USAID FROM THE AMERICAN PEOPLE

PREDICT

HealthMap Global health, local information

Search disease or location go

Advanced Search

Display Options: Map Satellite

Hotspots (Global distribution of relative risk of an emerging infectious disease event as adapted from Jones, Patel, et al. Global trends in emerging infectious diseases. Nature 451, 990-993, 21 February 2008.)

Activity Index

- Low
- High
- Country level
- Province or local level
- PREDICT countries

Quick Views

All Regions Congo Basin Latin America

Google

<http://healthmap.org/predict>

USAID FROM THE AMERICAN PEOPLE | PREDICT | HealthMap Global health, local information

Search: disease or location go Advanced Search Display Options: [Icons]

Activity Index: Low High Country level Province or local level PREDICT countries

Quick Views: All Regions Congo Basin Latin America

197 Alerts Now Showing (Native 451, 990-993, 21 February 2008.)

Source	Date	Summary	Disease	Location	Cases	Deaths
[Icon]	4 Mar	Low: H1N1 still a threat	Swine Flu H1N1	Malaysia		
[Icon]	4 Mar	Mexico zoo destroys 114 birds after outbreak of deadly avian virus ...	Newcastle Disease	Chilpancingo, Guerrero, Mexico		
[Icon]	4 Mar	Influenza outbreak confirmed in School GN - EntornoInteligente	Influenza	Cordero, Portuguesa, Venezuela		
[Icon]	4 Mar	Vietnam bird flu outbreak of foot and mouth disease has not ended - ...	Avian Influenza	Vietnam		
[Icon]	4 Mar	Confirmed Highly pathogenic avian influenza in Ha Nam, Viet Nam - ...	Avian Influenza	Tỉnh Hà Nam, Hà Nam, Vietnam		

UC Davis VETERINARY MEDICINE | GVFI Global Viral Forecasting Initiative | EcoHealth Alliance | WILDLIFE CONSERVATION SOCIETY

Last update: 4 Mar 2011 11:00 | Next update: 4 Mar 2011 12:00

CEG chip [Icons] MIT HST

<http://healthmap.org/predict>

Computational Scientometrics References

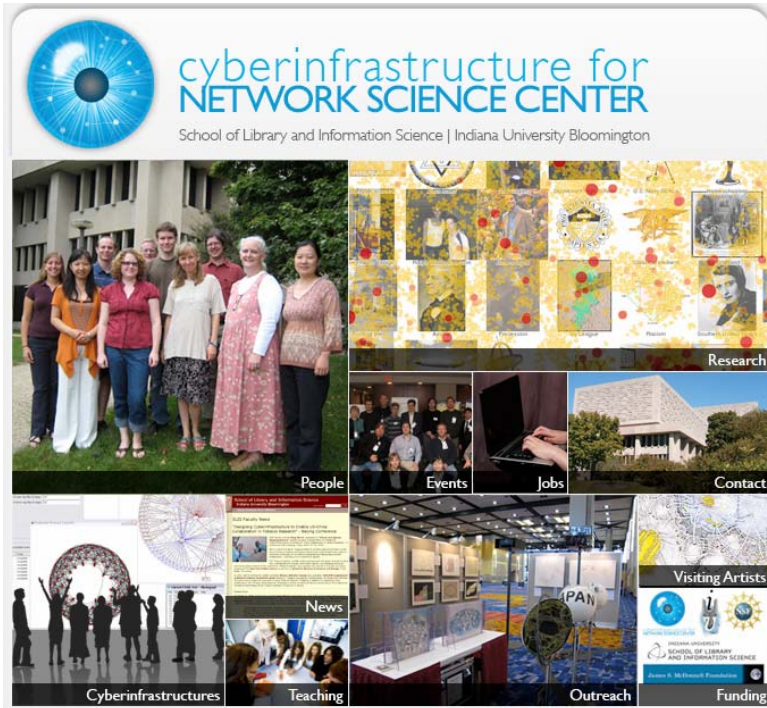
Börner, Katy, Chen, Chaomei, and Boyack, Kevin. (2003). **Visualizing Knowledge Domains**. In Blaise Cronin (Ed.), *ARIST*, Medford, NJ: Information Today, Inc./American Society for Information Science and Technology, Volume 37, Chapter 5, pp. 179-255.
<http://ivl.slis.indiana.edu/km/pub/2003-borner-arist.pdf>

Shiffrin, Richard M. and Börner, Katy (Eds.) (2004). **Mapping Knowledge Domains**. *Proceedings of the National Academy of Sciences of the United States of America*, 101(Suppl_1).
http://www.pnas.org/content/vol101/suppl_1/

Börner, Katy, Sanyal, Soma and Vespignani, Alessandro (2007). **Network Science**. In Blaise Cronin (Ed.), *ARIST*, Information Today, Inc./American Society for Information Science and Technology, Medford, NJ, Volume 41, Chapter 12, pp. 537-607.
<http://ivl.slis.indiana.edu/km/pub/2007-borner-arist.pdf>

Börner, Katy (2010) *Atlas of Science*. MIT Press.
<http://scimaps.org/atlas>





All papers, maps, tools, talks, press are linked from <http://cns.iu.edu>