



National Institutes of Health
OER DATA Systems

Improving the Research Portfolio Data Infrastructure at NIH

Modeling Science, Technology & Innovation

Washington DC
May 17-18, 2016

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Director, Office of Data Analysis Tools and Systems
NIH Office of Extramural Research



NIH National Institutes of Health
Office of Extramural Research



National Institutes of Health
OER DATA Systems

National Research Council

July 2003

Public accountability and leadership are key aspects of NIH's stewardship of the biomedical enterprise...

[C]urrent deficiencies in information management methods and **infrastructure to collect, analyze, and report level-of-investment data in a timely fashion need to be addressed...**

NIH must also **improve its tracking and analysis of the research accomplishments of scientists trained and supported with NIH funds.**

*Committee on the Organizational Structure of the National Institutes of Health
National Research Council
<http://www.nap.edu/catalog/107769.htm>*



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May 18, 2016 3

Need for Data Integration

“NIH administrative staff have had limited tools to retrieve, analyze, and report the results of the NIH collective investment in biomedical research... A better way would be a more facile, **integrated analysis and reporting** tool for use across the NIH by administrative leadership and program staff This tool (or these tools) would **take advantage of recent informatics capabilities.**”

August 2012
NIH Advisory Committee to the Director, Data and Informatics Working Group
<http://acd.od.nih.gov/DataandInformaticsWorkingGroupReport.pdf>

“**NIH should link its own data infrastructure** with that of its many partners in the science and health ecosystems who are already tracking many outcomes of interest to NIH (e.g., CDC, U.S. Patent and Trademark Office, Food and Drug Administration).”

March 2014
NIH Scientific Management Review Board
Working Group on Approaches to Assess the Value of Biomedical Research Supported by NIH
<http://smb.od.nih.gov/documents/reports/VOBR-Report-122013.pdf>

“Measures of research activities, outputs, and technology transfer are important, and both the measures and **the underlying data need to be improved.** [NIH Data] would be more valuable if its data had more complete coverage, were **linked to other data sources,** and were made more accessible to researchers.”

June 2014
NRC Committee on Assessing the Value of Research in Advancing National Goals
http://nap.edu/catalog.php?record_id=18804



Use Case Mining Patents for Government Interest...

**Patents as Proxies Revisited:
NIH Innovation 2000 to 2013**

Prepared by Battelle Technology Partnership Practice
Prepared for The Academy of Radiology Research
March 2015

Battelle
The Business of Innovation

Table 2. NIH-Related Patent by Specified IC and Data Set – Initial Base Data

Institute or Center (IC) Name	GRANT PERIOD		PATENT PERIOD	
	Patent Count	Forward Citations	Patent Count	Forward Citations
Fogarty International Center	11	4	15	40
National Cancer Institute	2,398	11,432	2,905	15,918
National Center for Advancing Translational Sciences	4	1	4	1
National Center for Complementary and Alternative Medicine*	10	163	10	163
National Center for Research Resources	428	3,644	476	4,434
National Eye Institute	235	2,995	259	3,336
National Heart, Lung, and Blood Institute	1,236	5,584	1,544	7,797
National Human Genome Research Institute	208	2,398	278	3,846
National Institute of Allergy and Infectious Diseases	1,326	4,020	1,655	6,168
National Institute of Arthritis and Musculoskeletal and Skin Diseases	247	1,663	356	3,229
National Institute of Biomedical Imaging and Bioengineering	343	819	343	819
National Institute of Child Health and Human Development	241	998	351	1,726
National Institute of Dental and Craniofacial Research	194	849	237	1,013
National Institute of Diabetes and Digestive and Kidney Diseases	774	3,376	964	8,803
National Institute of Environmental Health Sciences	144	707	152	737
National Institute of General Medical Sciences	1,884	10,078	2,212	14,109
National Institute of Mental Health	168	828	214	1,015
National Institute of Neurological Disorders and Stroke	648	3,085	770	3,854
National Institute of Nursing Research	3	5	4	22
National Institute on Aging	310	1,062	370	1,570
National Institute on Alcohol Abuse and Alcoholism	28	78	38	195
National Institute on Deafness and other Communication Disorders	141	702	152	874
National Institute on Drug Abuse	208	642	222	763
National Institute on Minority Health and Health Disparities	5	1	5	1
National Library of Medicine	25	789	27	826
Office of the Director/Components	12	5	19	39
Total NIH-Related Distinct Patents (Non-Duplicative)	9,638	49,445	11,443	70,312

Source: NIH RePORTER and ExPORTER data sets (2000-2013), Thomson Innovation patent research system, Battelle analysis. Rows do not sum to total as research leading to patents can be funded by more than one IC.

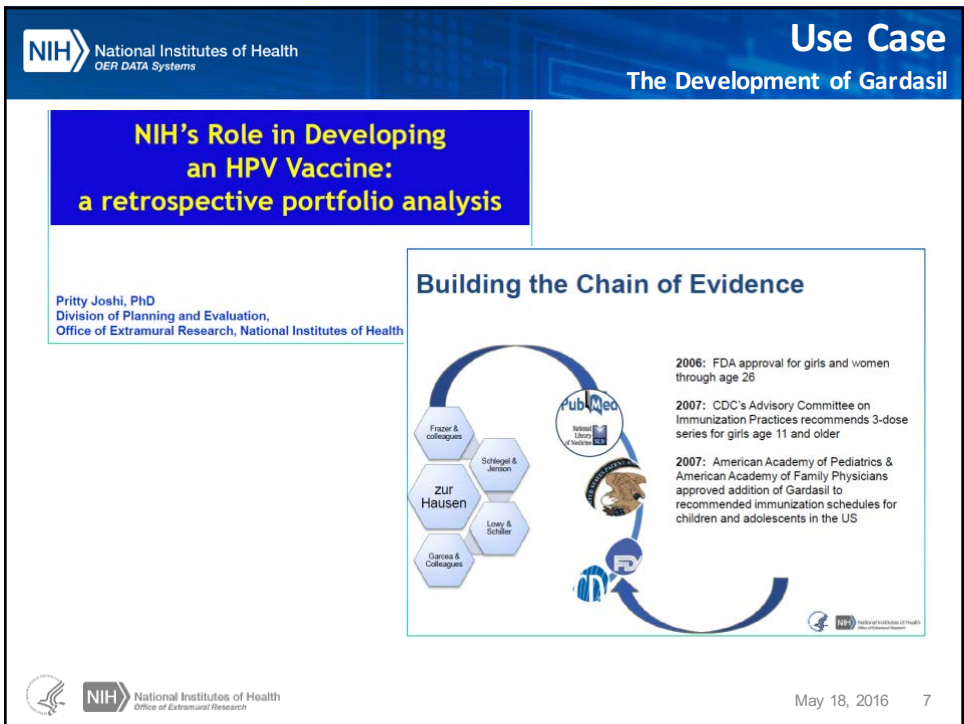
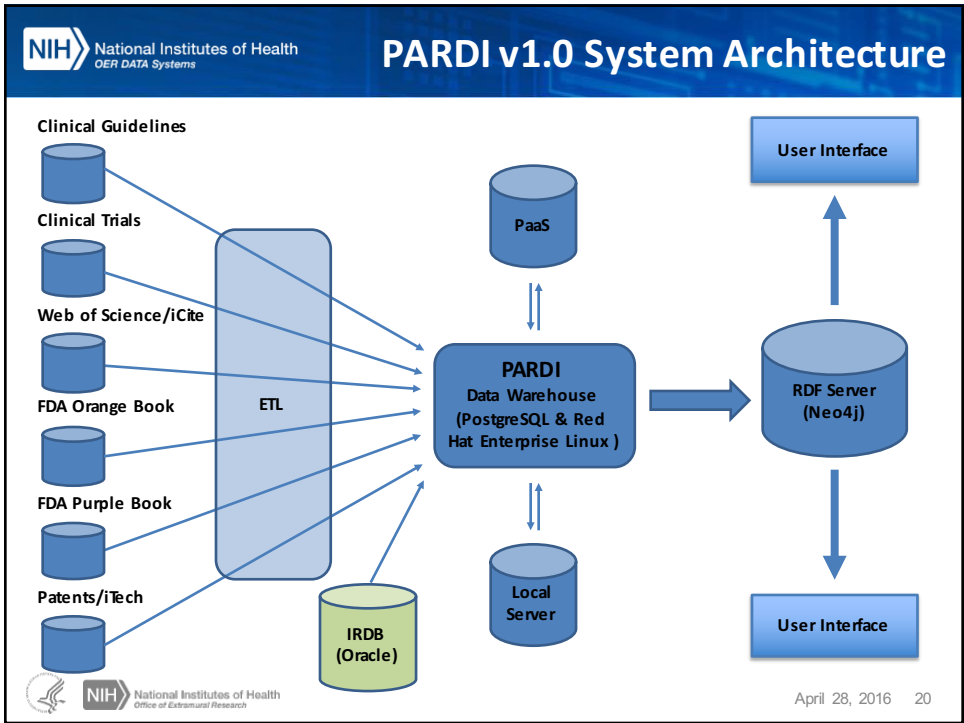


Appropriations Subcommittee Statement on the Fiscal Year 1997 Budget

April 26, 1996

In 1993-1994 alone, 1890 patents cited discoveries made by NIGMS grantees... 14 percent of all U.S. patents for drugs and medicines in 1994 cited NIGMS-supported papers. Further, the number of NIGMS citations is the second highest of all the Institutes at NIH, and it is the fifth highest when measured against all organizations, including all private organizations.





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ReTRACE

Research Timeline Reporting, Analysis, and Curation Environment

Topic Person Organization papilloma SEARCH

NIH DOCUMENT TITLE

- Phase II Safety and Efficacy Study of a Recombinant Human Papillomavirus Type 18 L1 Virus-Like Particle Vaccine
- A Phase I Study of a Recombinant Human Papillomavirus Type 18 L1 Virus-Like Particle Vaccine
- Recombinant human papillomavirus type 18 L1 virus-like particles
- Self-assembling recombinant papillomavirus capsid proteins
- Generation and characterization of recombinant human papillomavirus type 18 L1 virus-like particles
- Expression of the human papillomavirus type 18 L1 capsid protein in Escherichia coli: characterization of protein domains involved in DNA binding and capsid assembly
- A neutralizing epitope of human papillomavirus type 11 is principally described by a conserved epitope.
- CANINE ORAL PAPILLOMAVIRUS MODEL FOR A VACCINE
- Distribution and specific identification of papillomavirus major capsid protein epitopes by immunocytochemistry and epitope scanning of synthetic peptides.
- Detection of human papillomavirus DNA in laryngeal squamous cell carcinomas by polymerase chain reaction.
- Immortalization of human foreskin keratinocytes by various human papillomavirus DNAs corresponds to their association with cervical carcinoma.
- ANTIGENIC DETERMINANTS OF THE PAPILLOMAVIRUS L1 CAPSID P

NIH research project
News release
Awarded patent
Clinical trial
Publication
Clinical guideline
NIH report

Linked to NIH Funding

CITED BY PEOPLE

5 LOWY, DOUGLAS R, et al.

Year	Count	Author
1998	20	GEORGE, HUGH A, et al.
1998	21	LOWY, DOUGLAS R, et al.
1997	0	UNCKELL, F, et al.
1997	30	LI, M, et al.
1997	38	LUDMERER, S W, et al.
1995	0	EVANDER, M, et al.
1992	0	SCHLEGEL, RICHARD
1990	13	LIM, P S, et al.
1990	0	HOSHIKAWA, T, et al.
1989	27	WOODWORTH, C D, et al.
1989	0	PERSONA

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ReTRACE Network

NIH ReTRACE

HPV DEMO

25 TRACE Items EXPORT VISUALIZE

Graph First Degree First and Second Degree

Paper Core Project Project Trace Patent Patent Assignee

1998 CHEN, Y
Mutant canine oral papillomavirus L1 capsid proteins which form virus-like particles but lack native conformational epitopes.
CITES 5 CITED BY 0

1998 GEORGE, HUGH A
Recombinant human papillomavirus type 18 vaccine - US5820870
CITES 6 CITED BY 0

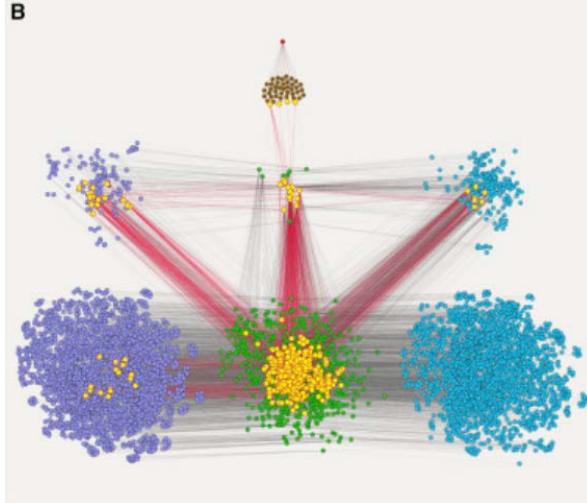
1997 LI, M
Expression of the human papillomavirus type 11 L1 capsid protein in Escherichia coli: characterization of protein domains involved in DNA binding and capsid assembly.
CITES 5 CITED BY 1

1996 KIRCHBAUER, R
Virus-like particles of bovine papillomavirus type 4 in prophylactic and therapeutic immunization.
CITES 4 CITED BY 0

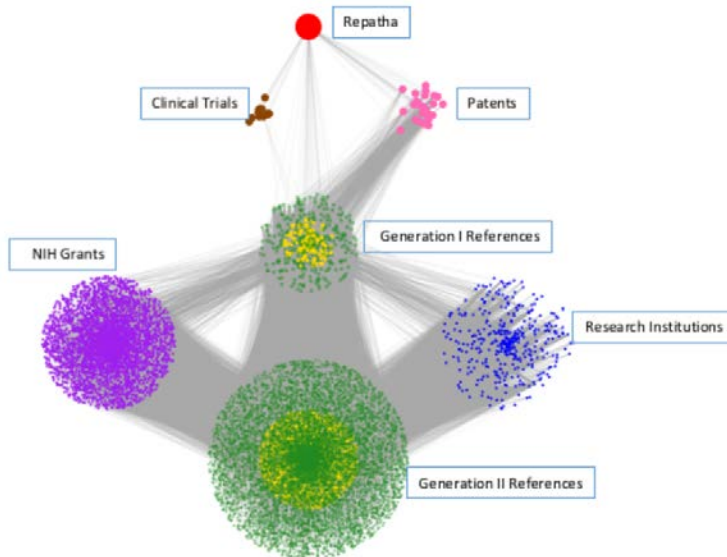
1996 SCHLEGEL, RICHARD
Human papilloma virus genes and their use in gene therapy - US5578206
CITES 1 CITED BY 0

1995 LOWY, DOUGLAS R
Self-assembling recombinant papillomavirus capsid proteins -
CITES 5 CITED BY 9

April 28, 2016 10



R. Sanders Williams, Samad Lotia, Alisha K. Holloway, Alexander R. Pico. From Scientific Discovery to Cures: Bright Stars within a Galaxy. *Cell*, 2015; 163 (1): 21 DOI: [10.1016/j.cell.2015.09.007](https://doi.org/10.1016/j.cell.2015.09.007)



ExPORTER Data Catalog

ExPORTER makes downloadable versions of the data accessed through the RePORT Expenditures and Results (RePORTER) interface available to the public. This site is a key component of NIH "open government" initiatives to provide more transparency in NIH activities, improve the quality of the data we collect, and increase its utility.

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PROJECTS	ABSTRACTS	PUBLICATIONS	PATENTS	CLINICAL STUDIES	LINK TABLES	XML	CSV	RAW DATA CATALOG
Project File Name	Month	Fiscal Year	XML	CSV	Last Updated Date			
FY 2016 RePORTER Project Data (May 2016, WEEK 2)	May, 2016 - WEEK 2	2016	XML (-1 MB)	CSV (-1 MB)	05/09/2016			
FY 2016 RePORTER Project Data (May 2016, WEEK 1)	May, 2016 - WEEK 1	2016	XML (-1 MB)	CSV (-1 MB)	05/02/2016			
FY 2016 RePORTER Project Data (April 2016, WEEK 4)	April, 2016 - WEEK 4	2016	XML (-1 MB)	CSV (-1 MB)	04/25/2016			
FY 2016 RePORTER Project Data (April 2016, WEEK 3)	April, 2016 - WEEK 3	2016	XML (-1 MB)	CSV (-1 MB)	04/17/2016			
FY 2016 RePORTER Project Data (April 2016, WEEK 2)	April, 2016 - WEEK 2	2016	XML (-1 MB)	CSV (-1 MB)	04/10/2016			



- NIH
- NSF
- EPA
- USDA (USFS, ARS, NIFA)
- ACF
- AHRQ
- CDC
- DOD (CNRM, CDMRP, DVBC)
- FDA
- NIDILRR
- NASA
- VA

MARKETING AND DELIVERY OF QUALITY GRAINS AND BIOPROCESS COPRODUCTS

Agency: NIFA Project Number: 1002052 Contact PI / Project Leader: ADAM, B. Awardee Organization: OKLAHOMA STATE UNIVERSITY STILLWATER

Description

Abstract Text:

Consumers are increasingly demanding high-quality, safe wholesome foods. At the same time, environmental and safety restrictions have reduced the availability of certain chemicals to control insects. As biological and chemical scientists and entomologists are developing alternative methods of insect control, there is a need for economic analysis and optimization to identify the most cost-effective of these alternatives so that increases in food costs can be minimized. Also, the increasing complexity of our food system, with increasing demands by consumers for fresh foods with less processing yet increased safety, has increased the need for traceability systems in food supply chains. Development and implementation of such systems has the potential to increase food safety while also increasing efficiency and reducing costs of providing food. A multidisciplinary approach, including application of economic principles, is necessary to accomplish these goals. Both of these initiatives have the potential to increase wholesomeness and safety of our food supply, while maintaining its affordability.

Project Terms:

Biological; bioprocess; Cereals; Chemicals; consumer demand; cost; cost effective; Development; Economics; Food; Food Safety; Food Supply; Goals; Insect Control; interdisciplinary approach; Marketing; Methods; Process; Safety; Scientist; System; Time

MURINE TRANSGENIC MODELS OF PRION DISEASES

Agency: NINDS Project Number: 5R01NS040975-15 Contact PI / Project Leader: HARRIS, DAVID A Awardee Organization: BOSTON UNIVERSITY MEDICAL CAMPUS

Results

ABOUT FEDERAL REPORTER RESULTS

Publications: (36)

EXPORT

PubMed PubMed Central Google Scholar

1 of 4

Title	Journal	Authors	Similar Publications	Cited By
Doppel induces degeneration of cerebellar Purkinje cells independently of Bax.	The American journal of pathology. 2007 Aug; 171 (2) :599-607	Dong, Jiaxin; Li, Aimin; Yamaguchi, Naohiro; Sakaguchi, Suehiro; Harris, David A	PubMed, Google Scholar	PubMed, Google Scholar
N-terminally deleted forms of the prion protein activate both Bax-dependent and Bax-independent neurotoxic pathways.	The Journal of neuroscience : the official journal of the Society for Neuroscience. 2007 Jan 24; 27 (4) :852-9	Li, Aimin; Barmada, Sami J; Roth, Kevin A; Harris, David A	PubMed, Google Scholar	Google Scholar
Visualization of prion infection in transgenic mice expressing green fluorescent protein-tagged prion protein.	The Journal of neuroscience : the official journal of the Society for Neuroscience. . 2005 Jun 15; 25 (24) :5824-32	Barmada, Sami J; Harris, David A	PubMed, Google Scholar	Google Scholar

Federal RePORTER

Federal ExPORTER FAQ Help System Health: GREEN

Federal ExPORTER

BACK TO FEDERAL REPORTER

Federal RePORTER makes downloadable versions of the data accessed through the Federal RePORT Expenditures and Results (Federal RePORTER) Interface available to the public.

Project File Name	Fiscal Year	CSV	XML	File Date
FY 2014 Federal RePORTER Project Data	2014	52.6 MB	58.8 MB	9/14/2015 6:04 PM
FY 2013 Federal RePORTER Project Data	2013	50.6 MB	56.8 MB	9/14/2015 7:01 PM
FY 2012 Federal RePORTER Project Data	2012	41 MB	46.4 MB	9/15/2015 10:18 AM
FY 2011 Federal RePORTER Project Data	2011	49.2 MB	55.7 MB	9/15/2015 10:18 AM
FY 2010 Federal RePORTER Project Data	2010	56 MB	61.6 MB	9/14/2015 10:08 PM
FY 2009 Federal RePORTER Project Data	2009	60 MB	66 MB	9/14/2015 11:24 PM
FY 2008 Federal RePORTER Project Data	2008	51.4 MB	56.8 MB	9/15/2015 12:32 AM
FY 2007 Federal RePORTER Project Data	2007	18.2 KB	22.3 KB	9/15/2015 12:36 AM
FY 2006 Federal RePORTER Project Data	2006	19.9 KB	24.1 KB	9/15/2015 12:40 AM
FY 2005 Federal RePORTER Project Data	2005	12.8 KB	15.6 KB	9/15/2015 12:44 AM
FY 2004 Federal RePORTER Project Data	2004	12.4 KB	15.2 KB	9/15/2015 12:48 AM

WORLD RePORT

- Fiscal Year
- Funding Organization
- Research Organization
- Region
- Country
- City
- PI Name (lastname, firstname)
- malaria

RESET SUBMIT

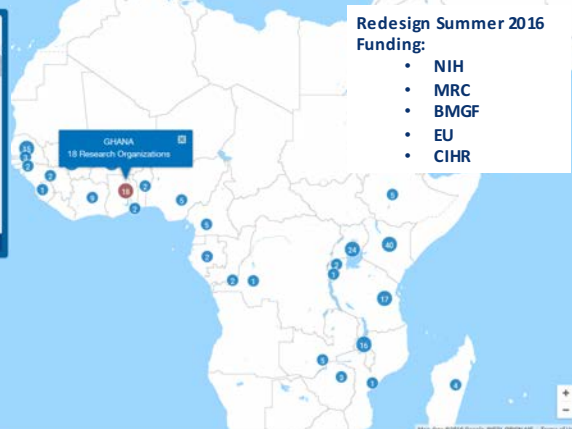
Filter Countries

- AUSTRALIA
- BANGLADESH
- BENIN
- BHUTAN
- BOTSWANA
- BURKINA FASO
- BURUNDI
- CAMBODIA
- CAMEROON
- CENTRAL AFRICAN REPUBLIC


Select All Close

Redesign Summer 2016 Funding:

- NIH
- MRC
- BMGF
- EU
- CIHR



By Funding Organization



Summary By Research Organizations - 231 Records

Program	Funding Org	Last PI/Member	Action
ADONEX- MICTI PLUS INITIATIVE ABIDJAN, COTE D'IVOIRE	NIH/CU	BOGGE, CLAIRSSE	View Abstract
AGARTALA GOVERNMENT MEDICAL COLLEGE AGARTALA, INDIA	NIH/CU	BOGGE, C.	View Abstract
ASSAM MEDICAL COLLEGE AND HOSPITAL DEBRUGARH, INDIA	NIH/CU	BOGGE, CLAIRSSE AWANG	View Abstract

NIH OD Sponsors and Collaborators

DPCPSI Office of Portfolio Analysis (George Santangelo)
OER Office of Planning, Analysis, and Communication (Luci Roberts)
OER Office of Research Information Systems (Rick Ikeda)
OSP Office of Science Management and Reporting (Marina Volkov)

NIH PARDI Working Group

NETE Solutions

Science and Technology Policy Institute

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NOTES:

