

ENERGY, SCIENCE AND TECHNOLOGY INFORMATION: The Enabler of Scientific Progress



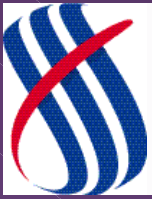
RL Scott, Director, Project and Program Development

**Office of Scientific and Technical Information
U.S. Department of Energy**

GlobeEx 2000

July 26, 2000





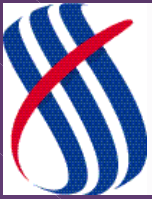
Office of Scientific and Technical Information
U.S. Department of Energy

*“For science to rapidly advance
at the frontiers, it must be open.
And shared knowledge is the
enabler of scientific progress.”*



U. S. Secretary of Energy Bill Richardson
Fermi Awards Presentation
Washington, D.C.
April 16, 1999





Office of Scientific and Technical Information U.S. Department of Energy

- Setting the stage
- Advancements in technical information access
- Future Information Infrastructure for the Physical Sciences...towards a national library

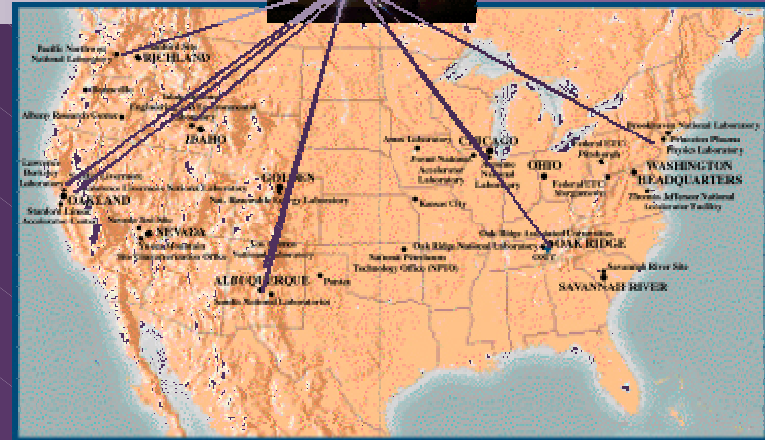




Supporting the Science



Mission



- The public invests \$7 billion annually in DOE R&D
- Principal output from department's R&D is scientific and technical information (STI)
- Ensures overall stewardship and accessibility for unclassified STI
- Oversees the Department's Technical Information Management Program
- Manages the world's most comprehensive collection of classified and sensitive energy-related information
- Operating Agent and the U.S. representative to the ETDE and INIS



The Oak Ridger

7-7404

OAK RIDGE, TENNESSEE, THURSDAY, JANUARY 14, 1960

PRICE FIVE CENTS

AEC's Information Plant In Oak Ridge Is 'Associated Press Of Atom World'

☆☆☆

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MILE OF FILE — Above, B. F. Breazeale, Jr., checks a reference in the more than a mile of files at the AEC's Technical Information Services division here. Below, the TISE plant, a converted warehouse along the Turnpike near Elza entrance. Photos by J. E. Westcott, official AEC photographer.

00-39-00-06-00

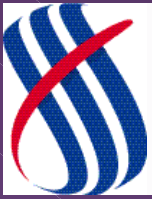


OSTI Resource Portfolio

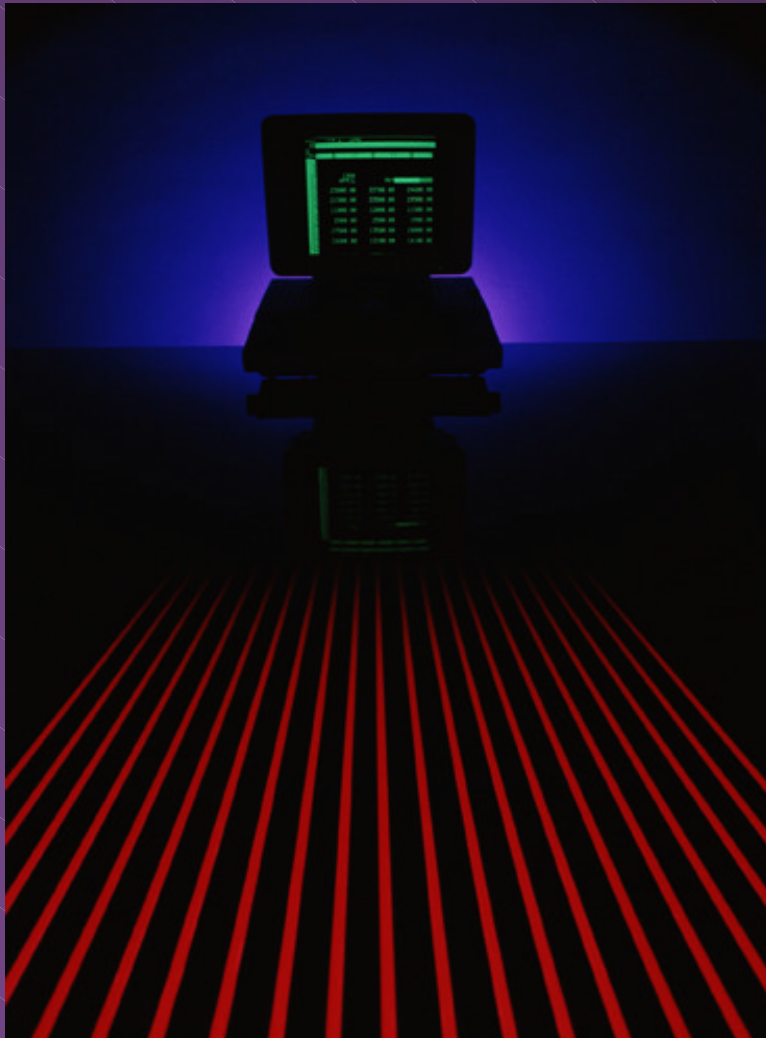
EnergyFiles
Virtual Library of Energy Science and Technology
EnergyPortal Search
Distributed searching across 500 heterogeneous databases and Web sites

 Journal access	 Full-text reports	 Preprint Literature
 Federal R&D Project Summaries	 R&D projects	 Outcomes of past research
 Declassified information	 Subject Specific Citations	 Report citations



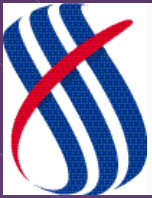


Office of Scientific and Technical Information U.S. Department of Energy



- Report Literature
(Gray Literature)
- Journal Literature
- Preprints





Office of Scientific and Technical Information U.S. Department of Energy

<http://www.osti.gov/bridge>

- April 1998
- Over 70,000 technical reports (5.5 million full-text pages) accessible and searchable
- Researchers downloading 14,000 reports monthly

Contents

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a product of the
Office of Scientific
and Technical
Information

**DOE
Information
Bridge**

Department of Energy ♦ Government Printing Office

Bringing DOE Information to your desktop. . .

The Department of Energy (DOE) welcomes you to the *DOE Information Bridge*. You now have over 2 million full-text pages at your fingertips!





Office of Scientific and Technical Information U.S. Department of Energy

<http://www.osti.gov/pubscience>

- October 1999
- Compendium of journal literature in sciences related to DOE
- 29 publisher partners with over 1,200 journal titles
- 2.0 million searchable journal citations



Providing access to a growing collection of
Scientific and Technical Publishers and Journal Literature

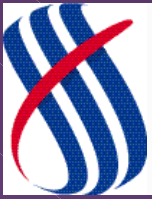
[Home](#) | [What's New](#) | [Search](#) | [Help](#) | [Comments](#) | [Collections](#) | [Related Links](#)

PubSCIENCE provides users the capability to search across a large compendium of peer reviewed journal literature with a focus on the physical sciences and other disciplines of concern to the Department of Energy (DOE).

American Association for the Advancement of Science
American Mathematical Society
American Meteorological Society
American Physical Society
American Society for Microbiology
American Society of Civil Engineers
Blackwell Science
Cambridge University Press
EDP Sciences
Electrochemical Society
Geologic Society
Institute of Physics Publishing
International Union for Crystallography
Massachusetts Medical Society (New England Journal of
Medicine)
MIT Press

National Academy Press
National Research Council of Canada Research Press
Nature
Portland Press
Royal Society of Chemistry
S. Karger AG
SCIPOLICY
Society for the advancement of material and process
engineering-SAMPE
Society for Industrial and Applied Mathematics
Springer-Verlag
Taylor & Francis Publishers, Ltd.
University of Chicago Press
Ziff-Davis, Inc., ZDNet
Wolters Kluwer





Office of Scientific and Technical Information U.S. Department of Energy

<http://www.osti.gov/preprint>

- January 31, 2000
- A searchable gateway to over 1,500 worldwide preprint sources and over 330,000 preprints

**PrePRINT
Network**

- About
- What's New
- Search Selected Sites
- Subject Pathways
- Browse
- Scientific Societies
- Comments
- Help

The Department of Energy's PrePRINT Network is a searchable gateway to preprint servers that deal with scientific and technical disciplines of concern to DOE. Such disciplines include the great bulk of physics, materials, and chemistry, as well as portions of biology, environmental sciences and nuclear medicine.

With a single query, users can search one or a collection of existing preprint servers. The Network pulses the search engines of such servers, compiles the results, and returns them to the users.





Technical Reports

GrayLit Network
A Science Portal of Technical Reports

Security/Disclaimer Notices

- Search the Literature
- About this Site
- What's New
- Disclaimer
- Contacts/Comments

DOE Home ◀
OSTI Home ◀

product of the DOE
Office of Scientific
and Technical
Information

- July 2000
- The GrayLit Network makes the gray literature of U.S. federal agencies easily accessible over the Internet.
- Gray Literature is that literature which is vitally important yet not commercially available and often difficult to find.
- Enables convenient access by the public to government information

<http://www.osti.gov/graylit>





Federally Funded Research

Find out how your research dollars are being spent

Federal R&D Project Summaries
Descriptions, Awards, and Summaries of Federally Funded Research

- April 2000
- Allows the researcher to search across the R&D records of the DOE (17,000), NIH (61,000), and NSF (146,000) with access to over 220,000 R&D items in a single search
- The significance rests in a focus on the truly interdisciplinary nature of science discoveries. It is hard enough to stay on top of your area of specialty let alone other disciplines.

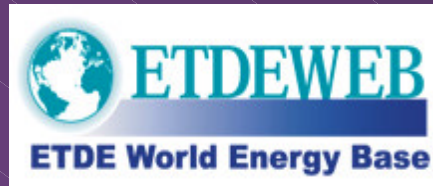
<http://www.osti.gov/fedrnd>

product of the DOE
Office of Scientific and Technical Information





Additional Products for Specific Interests



ETDE World Energy Base – a product of the Energy Technology Data Exchange (ETDE), includes worldwide information on the environmental impact of energy R&D; energy policy; nuclear, coal, hydrocarbon, and renewable energy technologies.
<http://www.etde.org/etdeweb/>

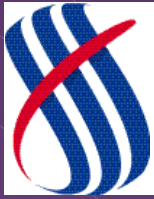


EnergyFiles – Virtual Library Collection of Energy Science and Technology - an expanding collection of energy related scientific and technical information (STI) available through connected worldwide energy resources.
<http://www.osti.gov/EnergyFiles/>



OpenNet – includes references to all documents declassified and made publicly available after October 1, 1994.
<http://www.osti.gov/opennet/>





Office of Scientific and Technical Information U.S. Department of Energy

Tool Usage Statistics – May 1999 – April 2000

	TOTAL	edu	gov	mil	com	net	int'l	other
PubSCIENCE	1,000,000	241,200	115,000	15,300	180,500	91,000	233,000	124,000
PrePRINTS	200,000	20,300	33,400	3,600	22,700	11,600	60,000	48,400
DOE InfoBridge-Pub	221,965	14,989	32,505	2,300	36,664	18,099	19,607	97,801
R&D Accomplish	30,689	1,316	8,183	239	6,385	2,273	3,866	8,427
R&D Proj Summ	108,886	4,581	23,947	620	22,125	8,098	10,270	39,245
Energy Files	193,595	10,601	20,847	2,034	35,570	16,962	18,950	88,631
Energy Portal	57,500	4,547	9,853	897	11,149	7,324	11,370	12,360
ECAPS	184,257	8,237	5,026	467	25,562	14,232	23,691	107,042
TOTAL USAGE	1,996,892	305,771	248,761	25,457	340,655	169,588	380,754	525,906
Percentage of Total		15%	13%	1%	17%	9%	19%	26%

* Other includes Unknown, Old Style Arpanet, Non-Profit Organizations and US



U.S. Department of Energy

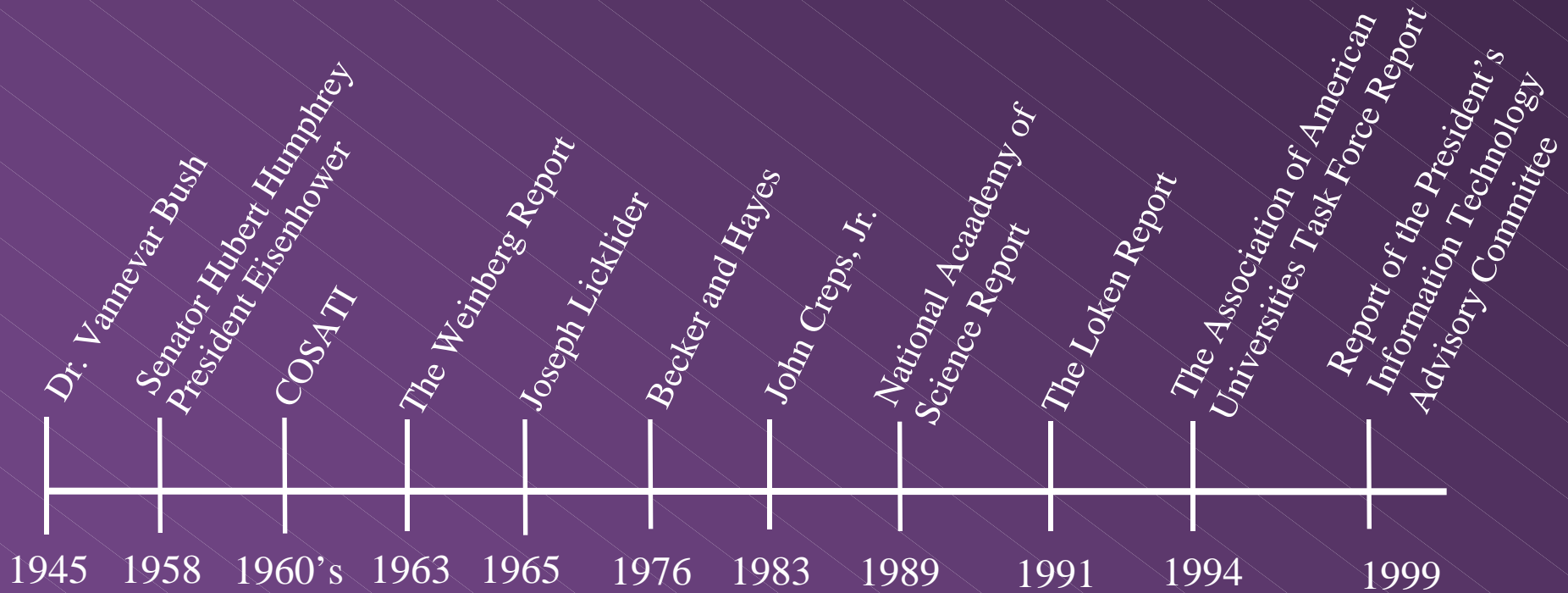


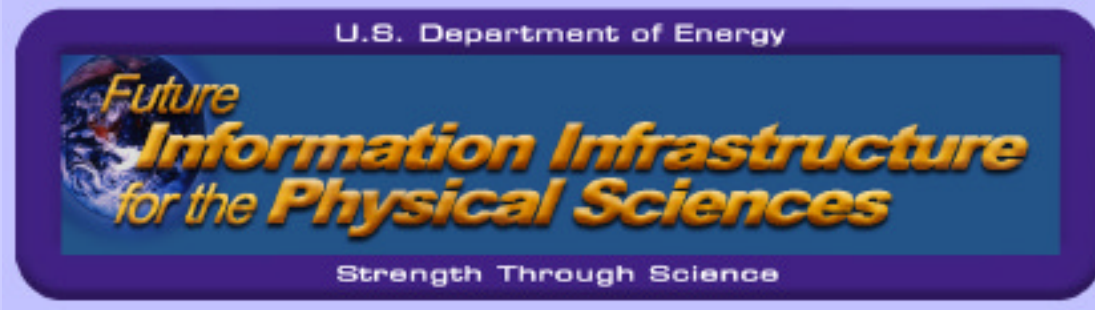
Future
Information Infrastructure
for the Physical Sciences

Strength Through Science

Future
**Information Infrastructure
for the Physical Sciences**

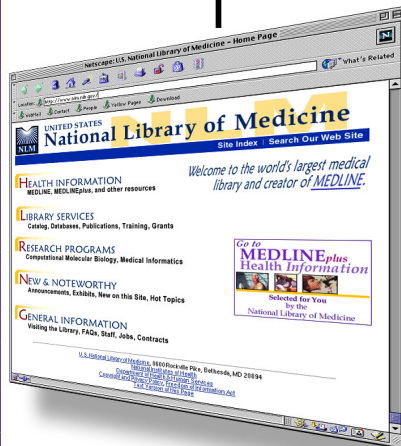
Strength Through Science



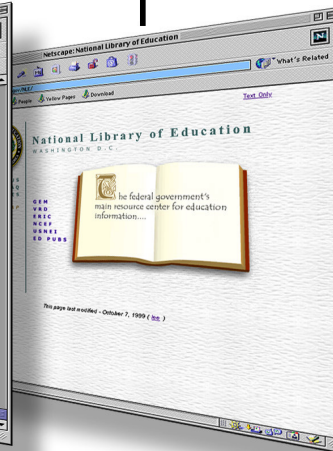


Exec. Branch National Libraries

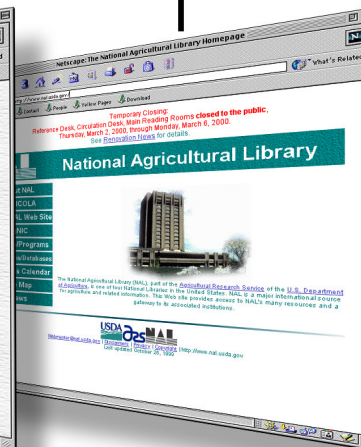
**NIH National Library of Medicine,
1836 (Legislated 1956)**



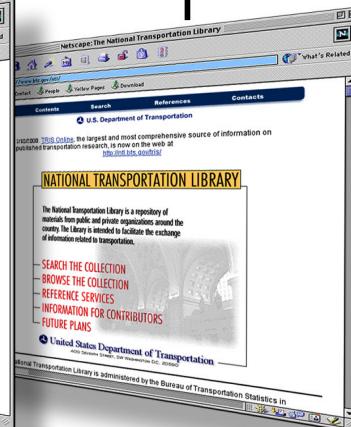
**National Library of Education,
1994**



**National Agricultural Library,
1862 (Legislated 1962)**



**National Transportation Library,
1998**





Workshop Panel

<u>Name</u>	<u>Title/Organization</u>	<u>Discipline/Community</u>
Alvin Trivelpiece	Emeritus Director, Oak Ridge National Laboratory	Physics Research Manager
R. Stephen Berry	James Franck Distinguished Service Professor, Department of Chemistry, The University of Chicago	Chemistry Scientist Data Manager
Derek Winstanley	Chief, Illinois State Water Survey	Geosciences Science Manager State Perspective





Workshop Panel (cont.)

<u>Name</u>	<u>Title/Organization</u>	<u>Discipline/Community</u>
Krishna Rajan	Professor, Materials Engineering, Rensselaer Polytechnic Institute (RPI)	Materials Science Scientist Materials Informatics
Martin Blume	Editor-in-Chief, American Physical Society	Physics Science Editor
Jose-Marie Griffiths	CIO and Professor, University of Michigan	Library/Information Science Information Manager

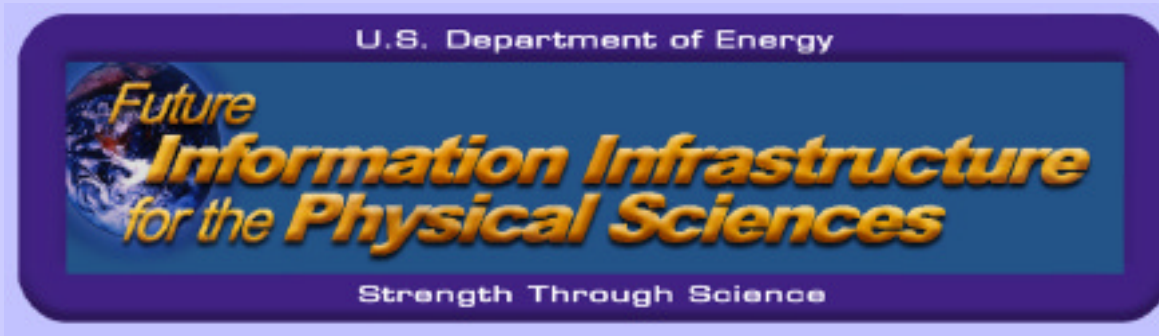




Workshop Panel (cont.)

<u>Name</u>	<u>Title/Organization</u>	<u>Discipline/Community</u>
Kirk McDonald	Professor, Princeton University	Physics Scientist
Lee Holcomb	Chief Information Officer, NASA	Engineering Information Technology
Kent Smith	Deputy Director, National Library of Medicine, NIH	Information Management National Library





Participants of the Workshop

Archive.org

Corporation for National
Research Initiatives

DOE Energy Library

Digital Library Federation

Internet2

National Agricultural Library

National Science Foundation

Special Libraries Association

American Association for
the Advancement of Science

Defense Technical Information Center

Department of Justice

Government Printing Office

Library of Congress

National Research Council

Nature Magazine

University of Maryland





Major Themes

- Scope of the Initiative
- Information Types
- Information Products and Services
- Archiving, Preservation and Access to Information
- Research, Education, and The Public Interest
- Quality
- Participation of Sectors of the Economy
- Leadership



Future
Information Infrastructure
for the Physical Sciences

Strength Through Science

Findings



A Common Knowledge Base that seeks in an integrated approach to provide comprehensive access and facilitate the reuse of worldwide sources of physical sciences information, regardless of where they reside, what platform(s) they reside on, or what format or data structure they employ.

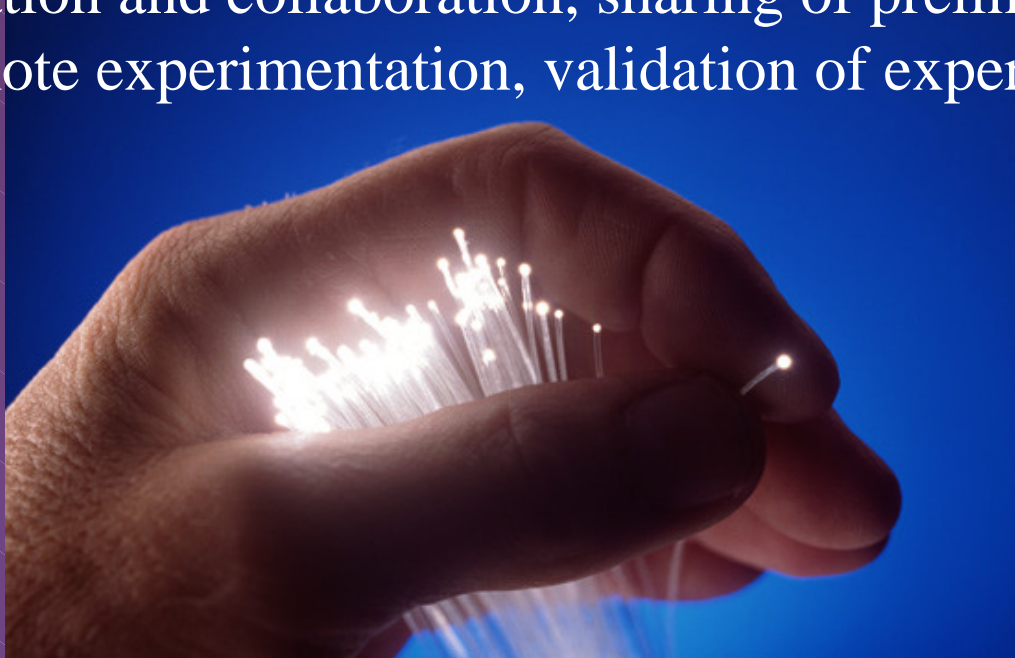


Future
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Strength Through Science

Findings (continued)

A Point of Convergence for ensuring the awareness, availability, use, and development of information technologies and tools to facilitate information assimilation, data analyses, peer communication and collaboration, sharing of preliminary research results, remote experimentation, validation of experimental results, etc...



Future
Information Infrastructure
for the Physical Sciences

Strength Through Science

Findings (continued)



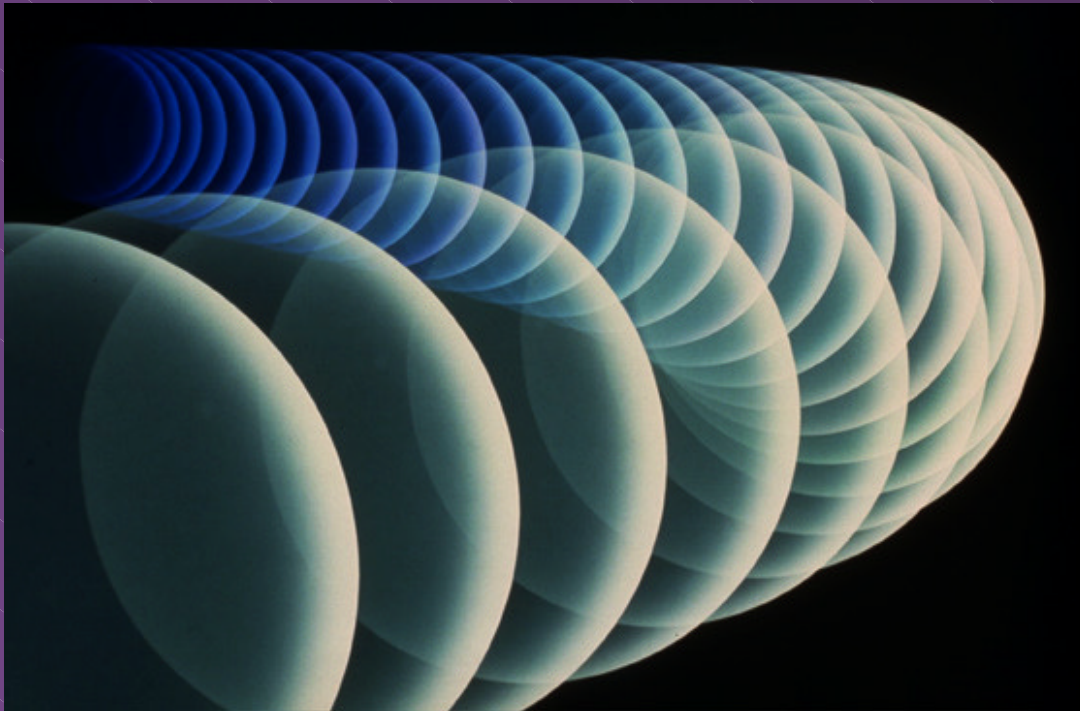
A Freely Available Source of information to serve all users, from students to scientists to concerned citizens, in a highly efficient electronic environment, with tools to assist users in their quest for information and ultimately knowledge.



Future
Information Infrastructure
for the Physical Sciences

Strength Through Science

Three Time Horizons



- Doing Better at What We're Doing Now
- Mobilizing for What is Possible Tomorrow
- Realizing the Future Potential

- <http://www.osti.gov/physicalsciences>



Future
**Information Infrastructure
for the Physical Sciences**

Strength Through Science

Why this is important

- Our future scientists and engineers are being trained today.
- Significant increase in scientist and engineer employment
- We may not have the talent to fill those positions.
- A source of physical science information and resources is needed to prepare for an educated research community.



Future
**Information Infrastructure
for the Physical Sciences**

Strength Through Science

Why this is important

- We have an investment in science and technology
- Public's awareness and expectations have been raised
- Research base is often overwhelmed with a mass of information
- Difficult to stay abreast of work done in other arenas
- Opportunities may be missed or resources wasted
- Simplified and improved interdisciplinary opportunities
- Expedited transfer of information from bench to application



U.S. Department of Energy

Future
Information Infrastructure
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Strength Through Science

<http://www.osti.gov/>

