
ASSESSING THE VALUE OF PUBLICATIONS

NATIONAL ACADEMIES OF SCIENCES ENGINEERING + MEDICINE

ADVANCING COMMERCIALIZATION FROM FEDERAL LABS

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INDIANA UNIVERSITY BLOOMINGTON

NATIONAL SCIENCE FOUNDATION

VINCENT LARIVIÈRE

UNIVERSITE DE MONTREAL

OST

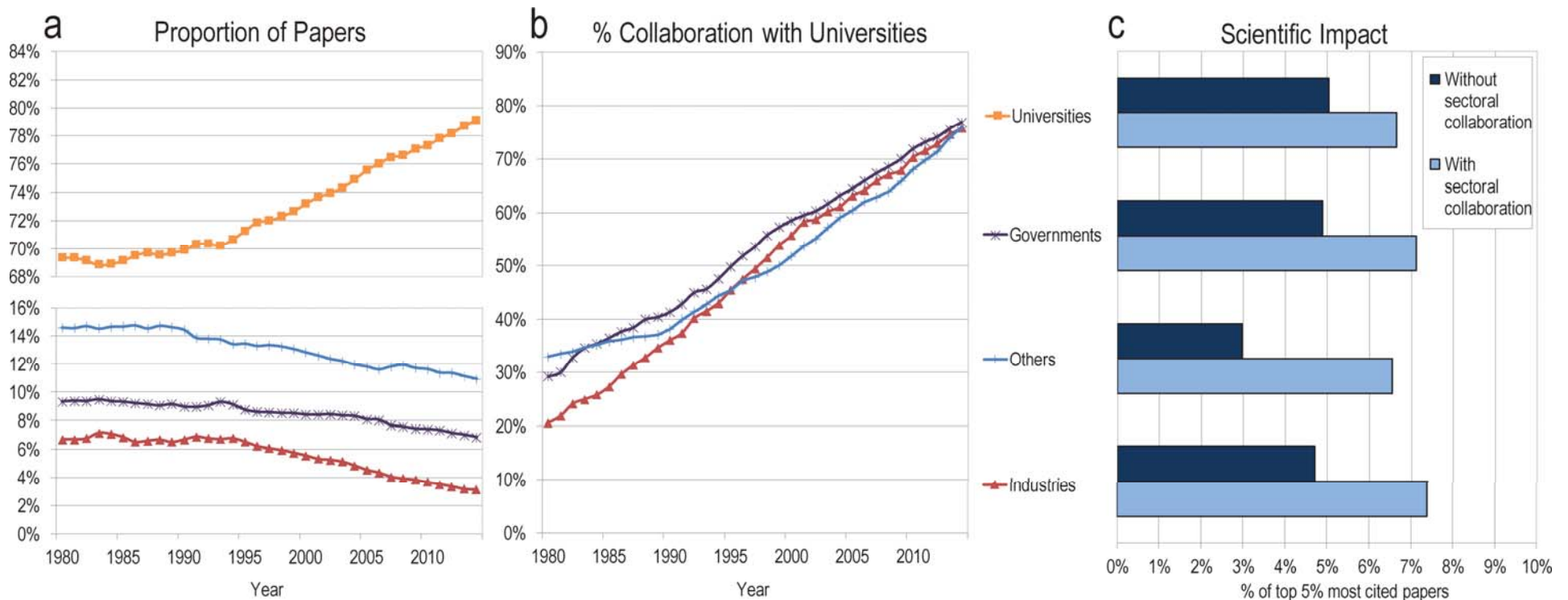
MISSION RELATIVE TO PUBLICATION



The committee feels strongly that the **continuing scientific excellence and productivity** of Los Alamos and Lawrence Livermore National Laboratories **are critical to the nation's nuclear deterrence capability**, and it believes that the recommendations in this report will both protect the scientific quality of the laboratories and allow for strengthening of their management practices.

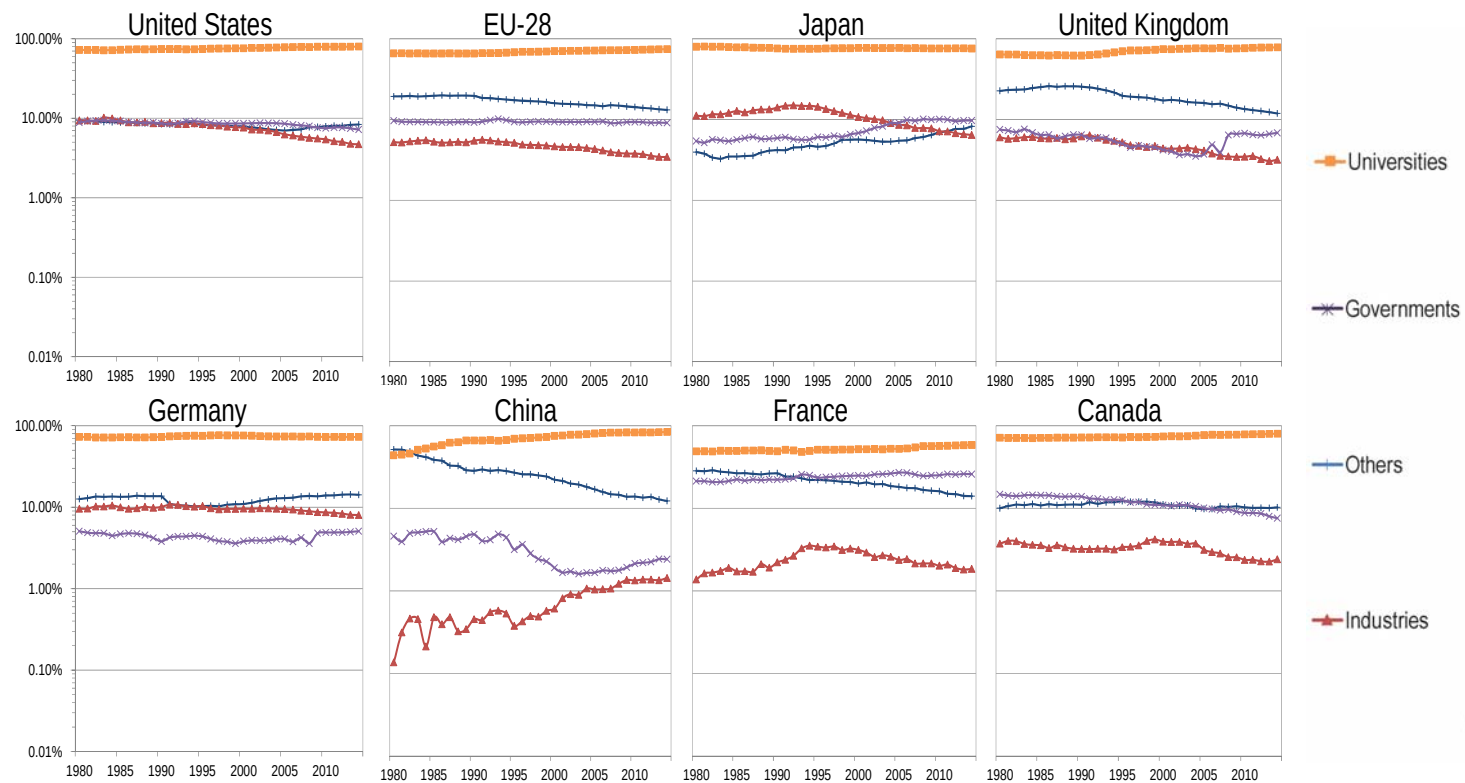
DECREASING SHARE OF GOVERNMENT RESEARCH

LARIVIERE ET AL., 2018



COUNTRY DIFFERENCES IN CONCENTRATION

LARIVIERE ET AL., 2018



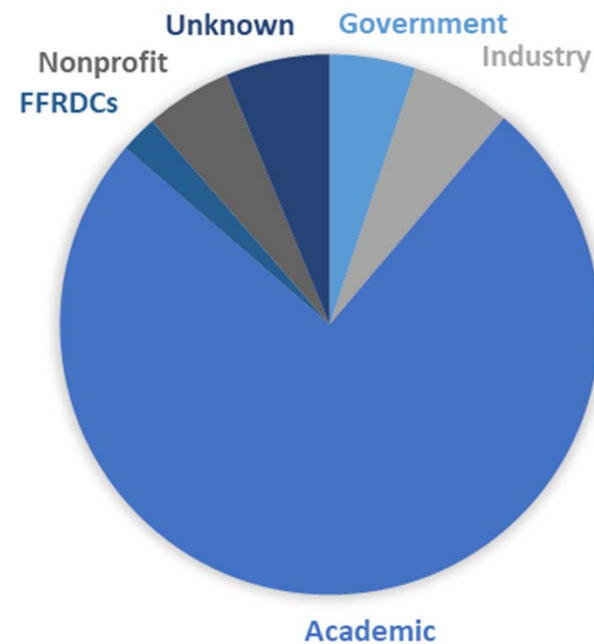
PROPORTION OF 2018 OUTPUT

SCIENCE AND ENGINEERING INDICATORS 2018

2018

SCIENCE &
ENGINEERING
INDICATORS

NATIONAL SCIENCE BOARD



IDENTIFYING FFRDCS FOR ANALYSIS

The screenshot shows the NSF website with the following elements:

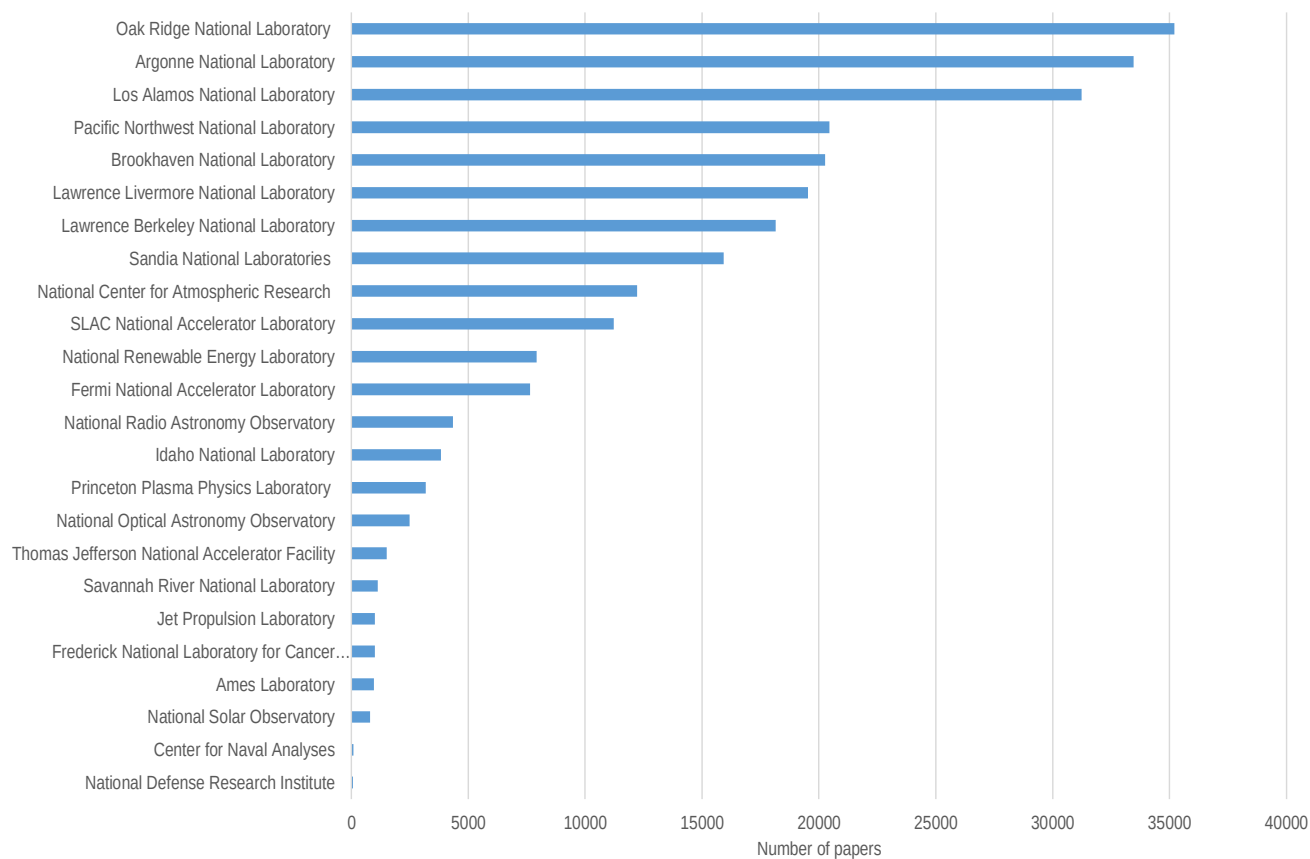
- Header:** NSF logo, "National Science Foundation WHERE DISCOVERIES BEGIN", a search bar, and links for "Contact" and "Help".
- Navigation Bar:** NSF, Research Areas, Funding, Awards, Document Library, News, About NSF.
- Left Sidebar:** Social, Behavioral & Economic Sciences (SBE), Social, Behavioral & Economic Sciences (SBE) Home, Behavioral and Cognitive Sciences (BCS), National Center for Science and Engineering Statistics (NCSES), About NCSES, Data, Publications, Surveys, Topics.
- Breadcrumbs:** Home > Research Areas > SBE > NCSES.
- Main Content Area:**
 - Master Government List of Federally Funded R&D Centers**
 - Information on this list is current as of May 2019. Changes from the previous edition are noted below; decertified, closed, or renamed FFRDCs are listed in "Historical Notes."
 - View the Master Government List by grouping or download the list (45 KB)
 - Filter tabs: FFRDC, Sponsoring agency, Administrator type, Location, Activity type, General Notes, Historical Notes, Prior Lists.
 - Aerospace Federally Funded Research and Development Center**
 - Administrator: The Aerospace Corporation
 - Location: El Segundo, CA
 - Sponsor: Department of Defense, Department of the Air Force
 - Ames Laboratory**
 - Administrator: Iowa State University
 - Location: Ames, IA
 - Sponsor: Department of Energy
 - Argonne National Laboratory**

☐ >100 publications since 2010 in WoS

22
(of 43)

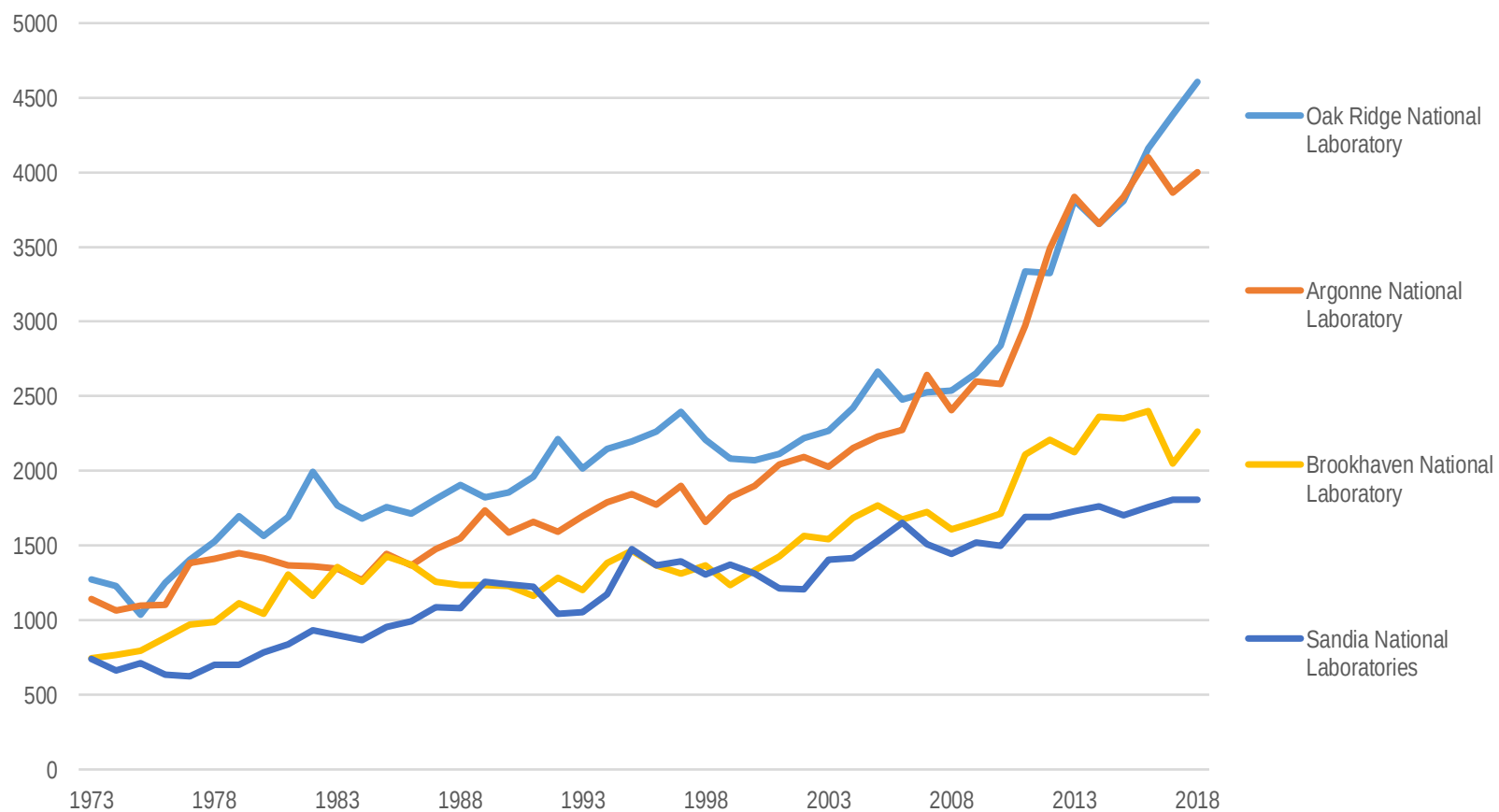
NUMBER OF PUBLICATIONS BY LAB

WOS (2010-2018)



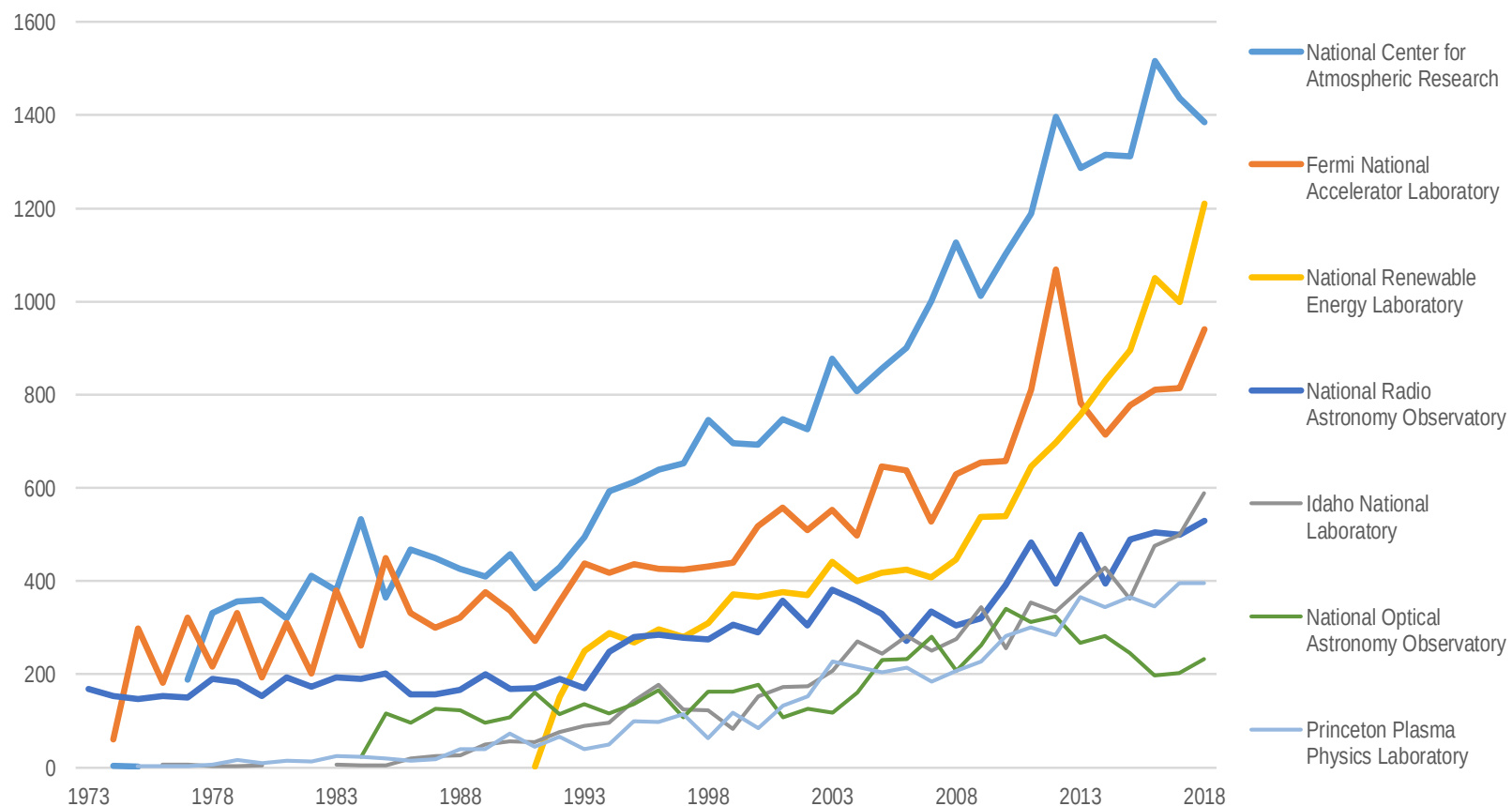
INCREASE IN PRODUCTION OVER TIME

WOS (1973-2018)



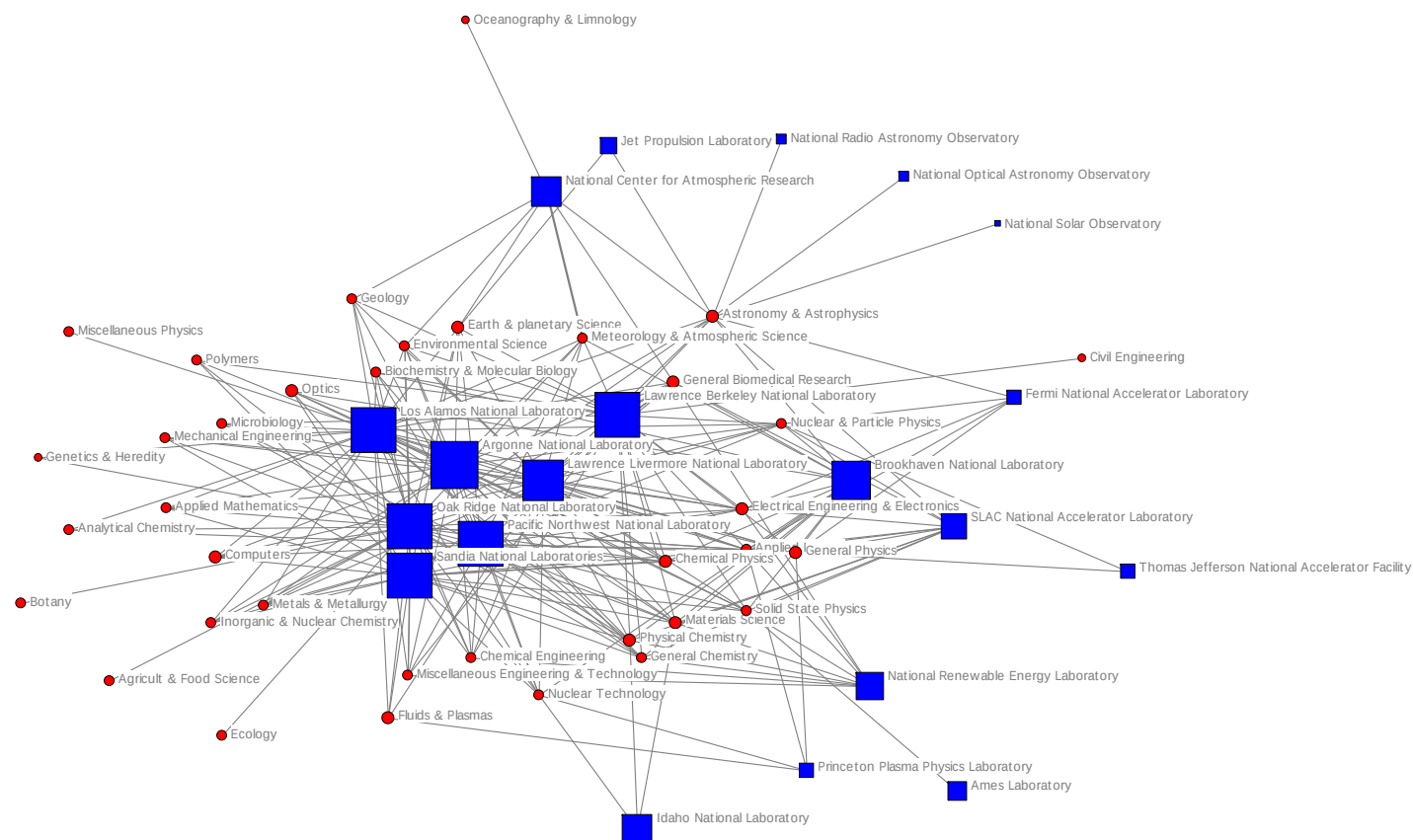
INCREASE IN PRODUCTION OVER TIME

WOS (1973-2018)



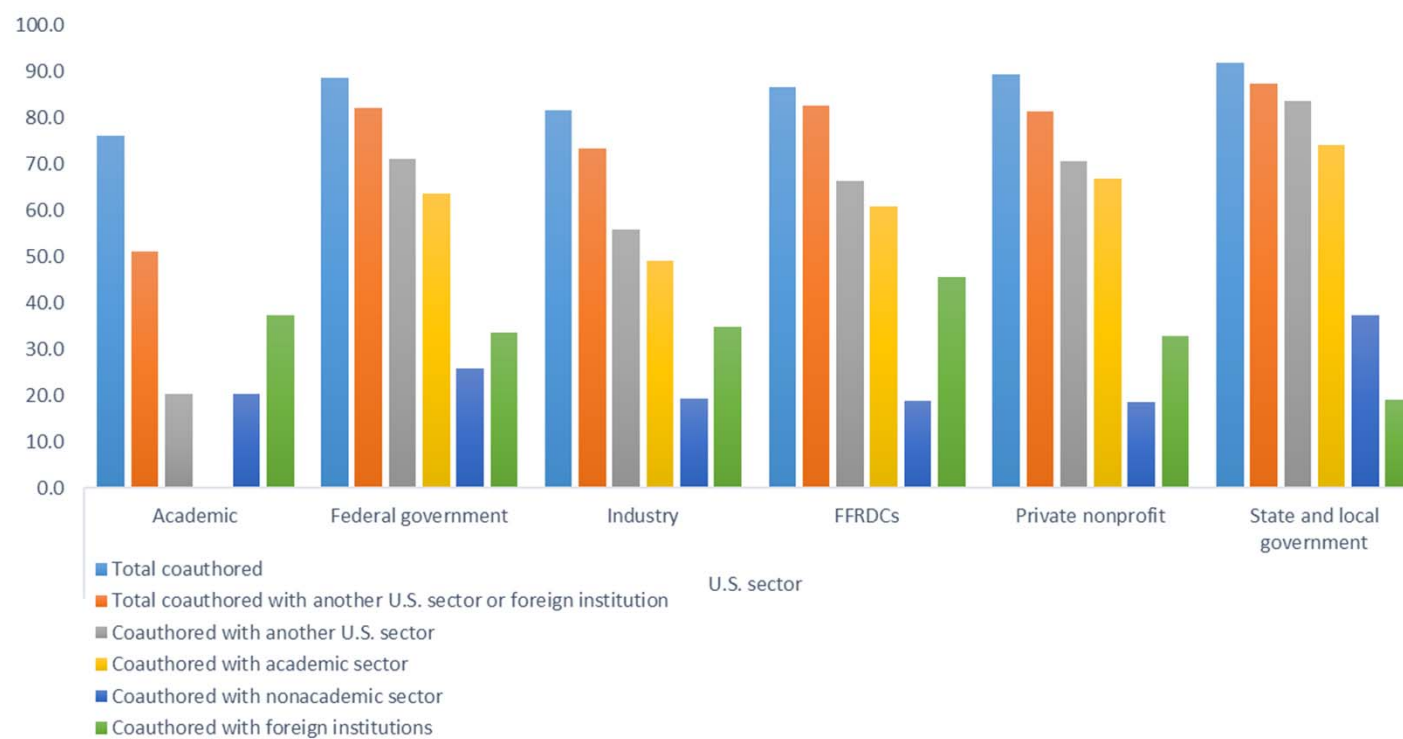
SPECIALTIES OF FEDERAL LABS

> 100 PAPERS IN WOS (2010-2018)



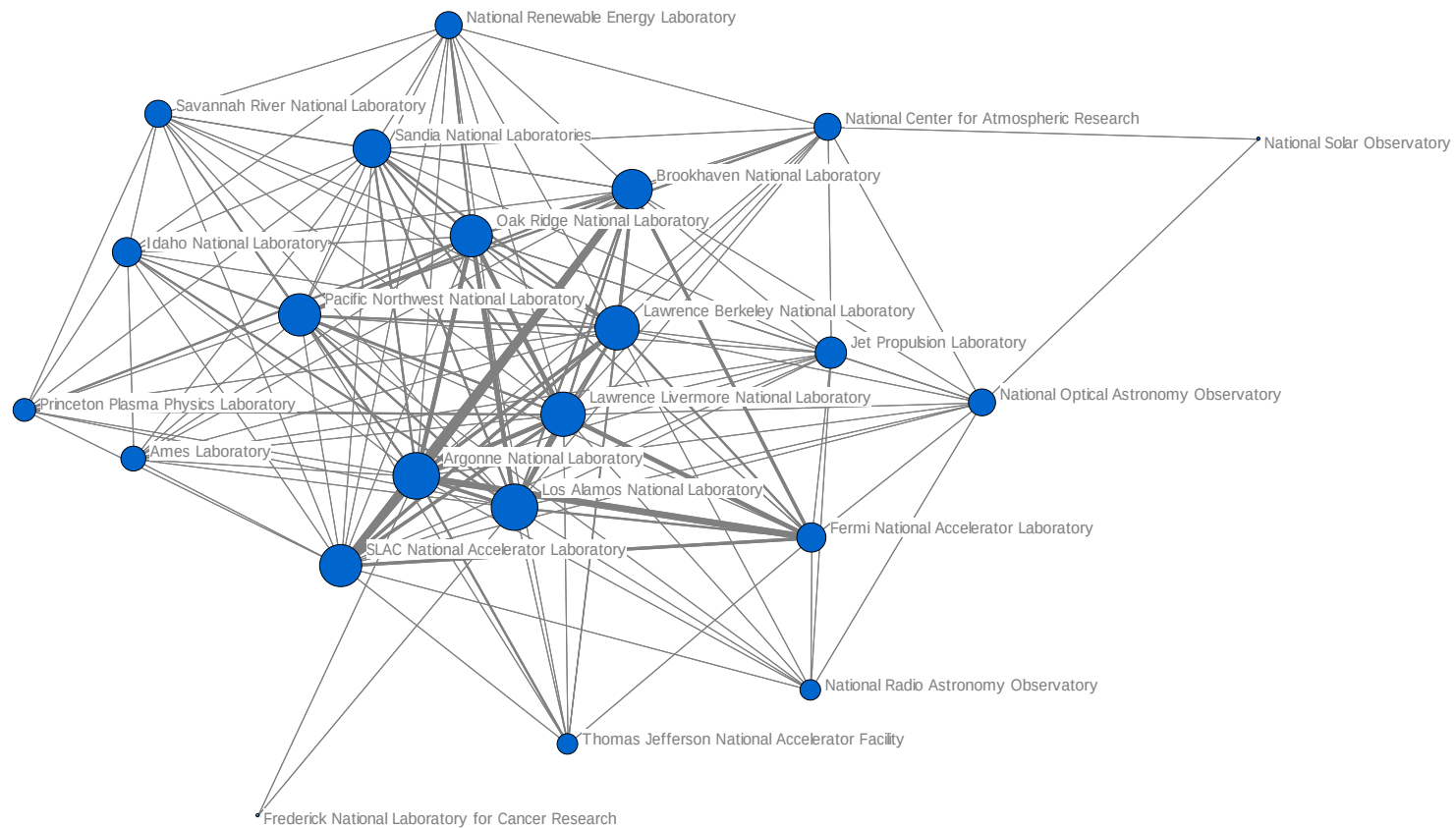
COLLABORATION ACROSS SECTORS

SCIENCE AND ENGINEERING INDICATORS (2016)



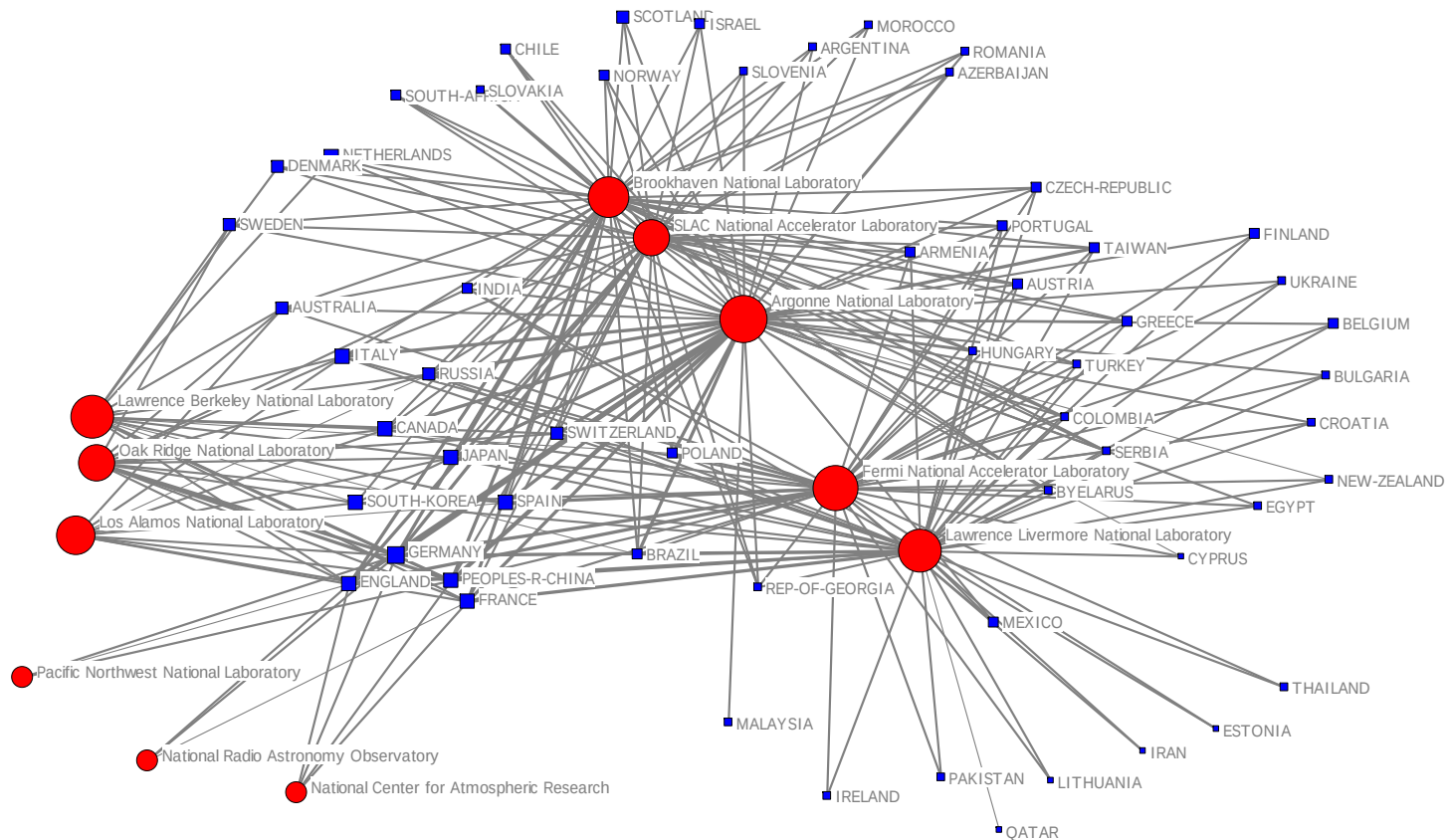
COLLABORATION ACROSS LABS

AT LEAST 10 PAPERS IN COLLABORATION



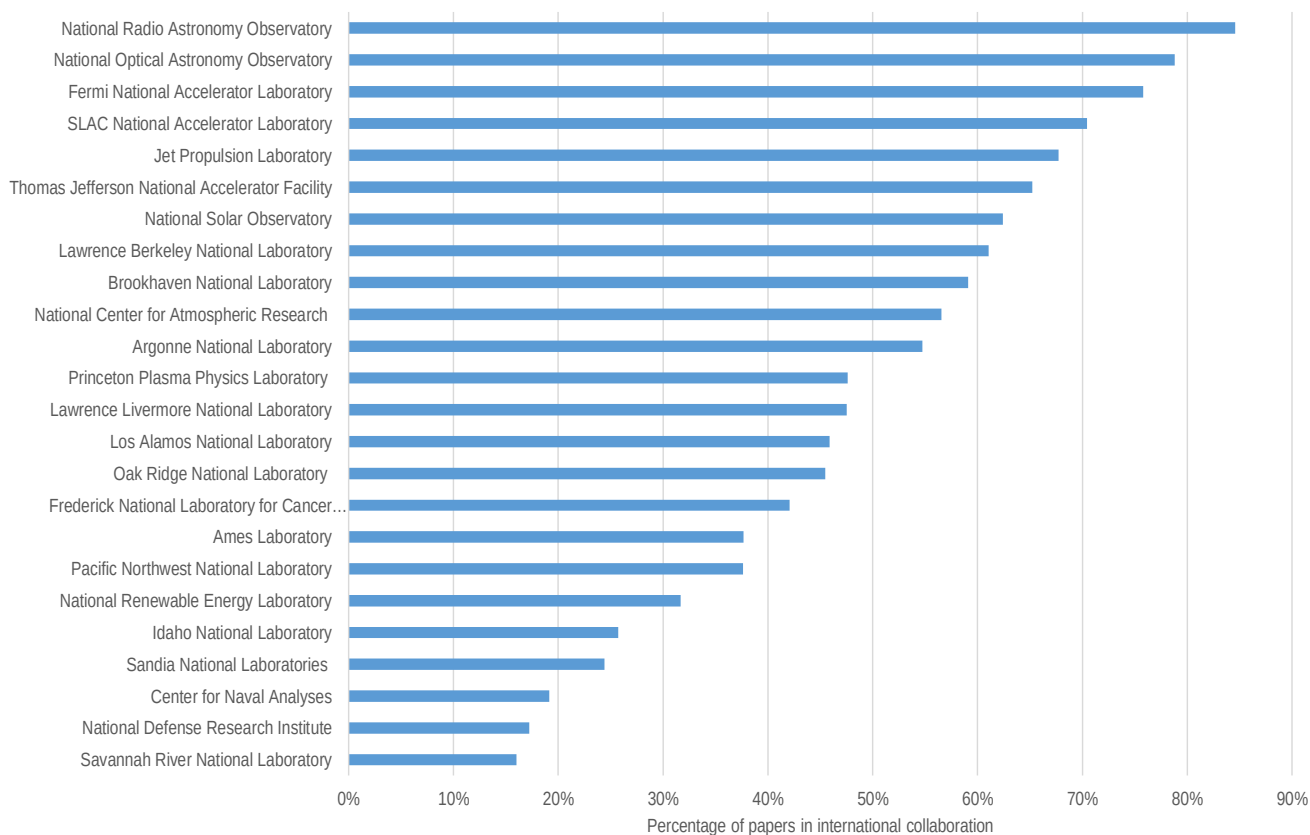
PROPORTION OF OUTPUT IN COLLABORATION WITH LABS

COLLABORATION WITH OTHER COUNTRIES



COLLABORATION WITH OTHER COUNTRIES

> 100 PAPERS IN WOS (2010-2018)



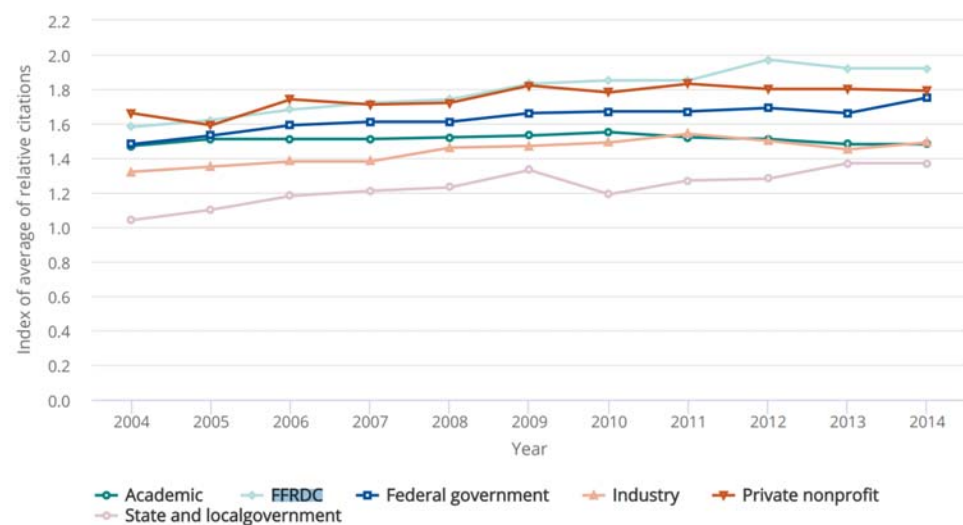
AVERAGE RELATIVE CITATIONS FOR US S&E ARTICLES

SCIENCE & ENGINEERING INDICATORS (2004-2014)

CHAPTER 5 | Academic Research and Development

FIGURE 5-32

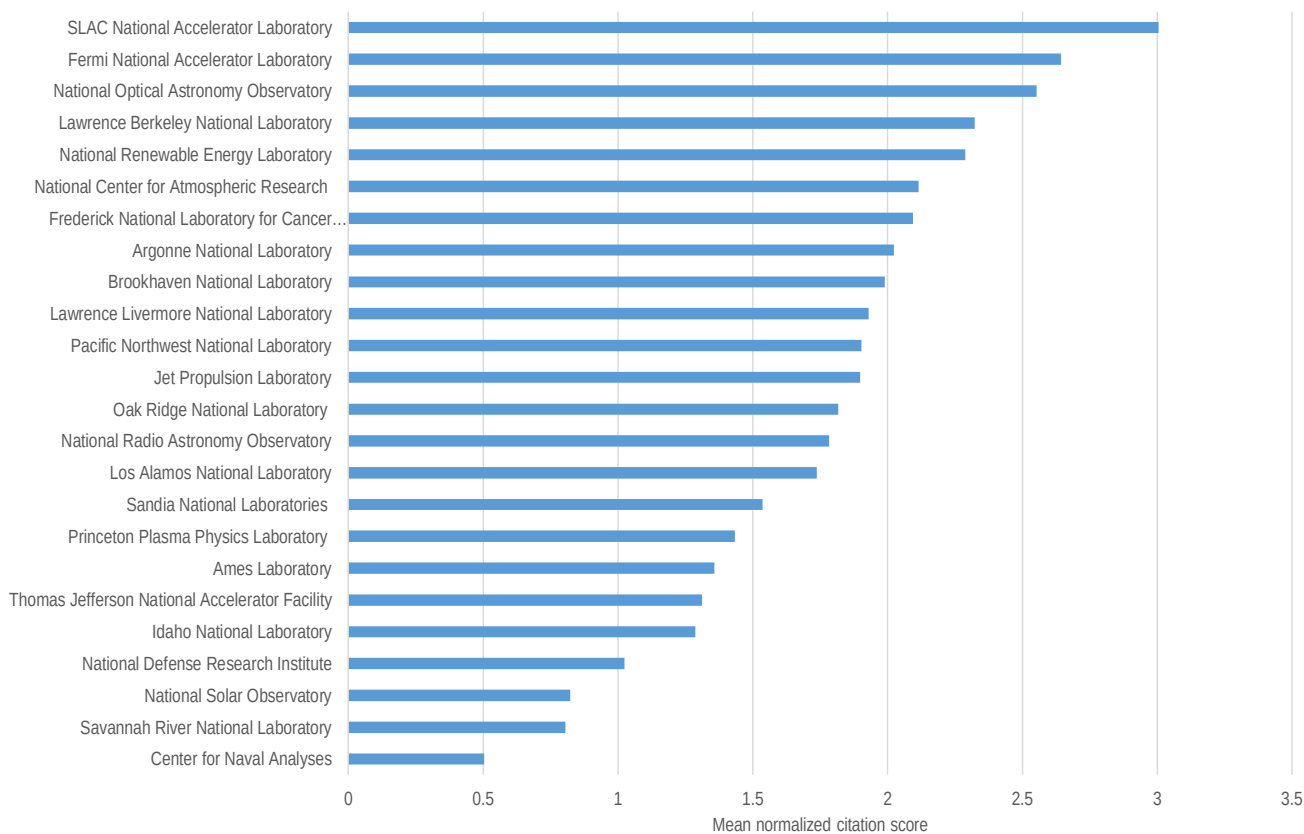
Average relative citations for U.S. S&E articles, by sector: 2004-14



FFRDC = federally funded research and development center.

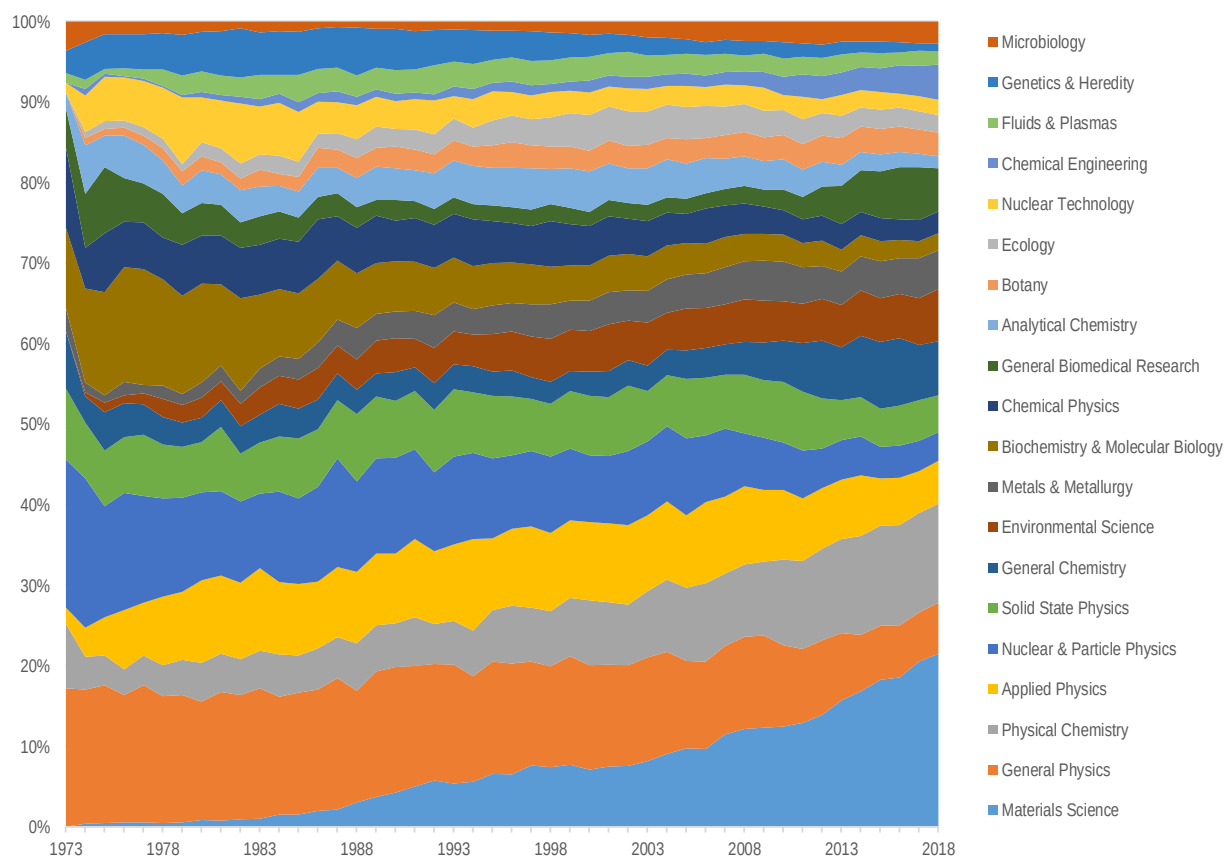
MEAN NORMALIZED CITATION SCORE BY LAB (I=WORLD AVG.)

WOS (2010-2018)



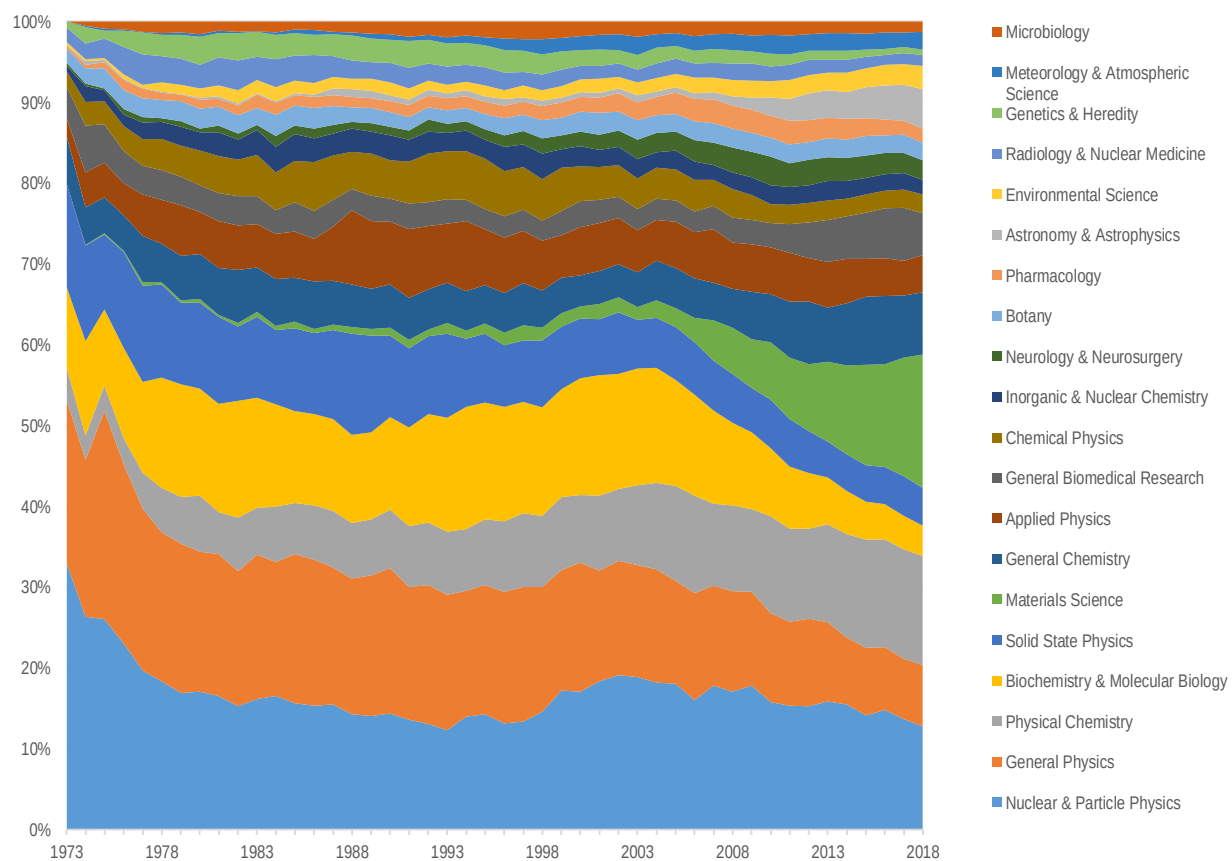
WHAT DISCIPLINES CITE OAK RIDGE NATIONAL LAB?

WOS (1973-2018)

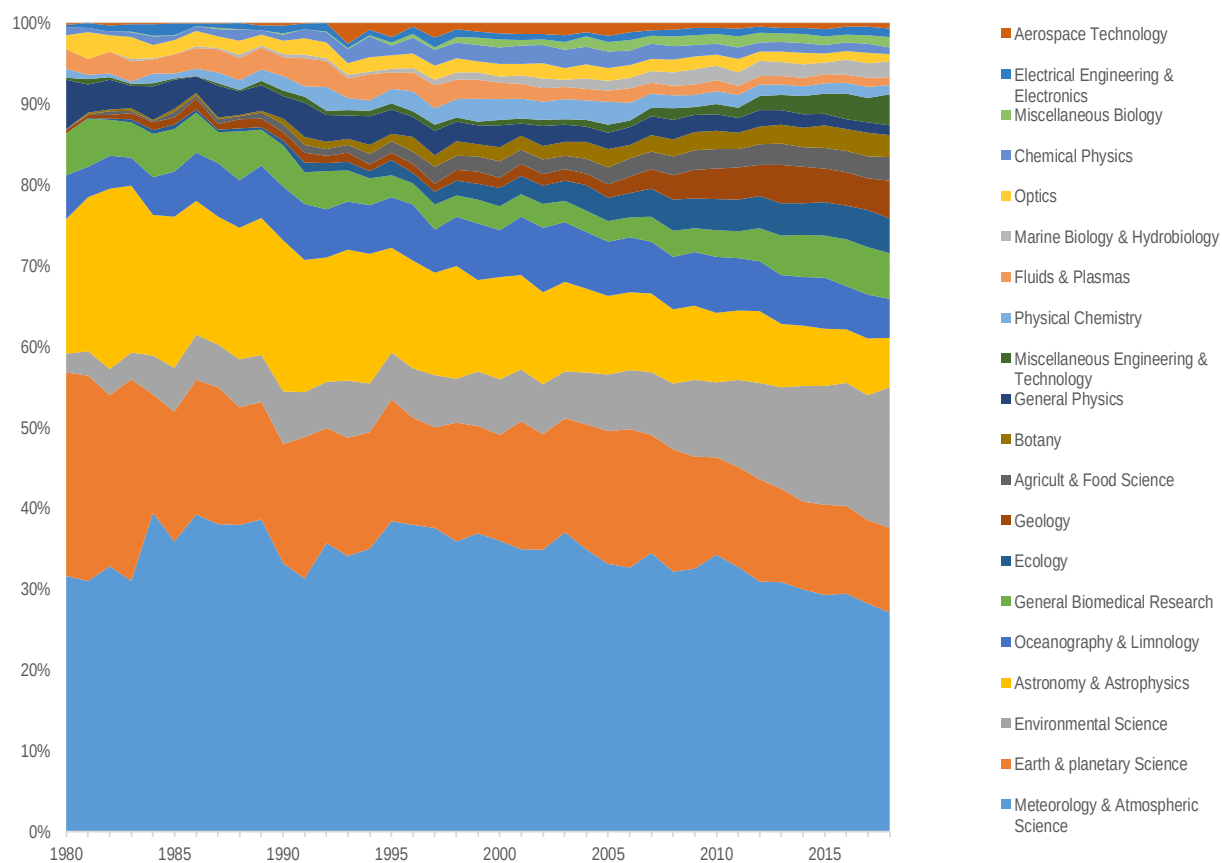


WHAT DISCIPLINES CITE BROOKHAVEN NATIONAL LABORATORY?

WOS (1973-2018)



WHAT DISCIPLINES CITE THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH WOS (1973-2018)



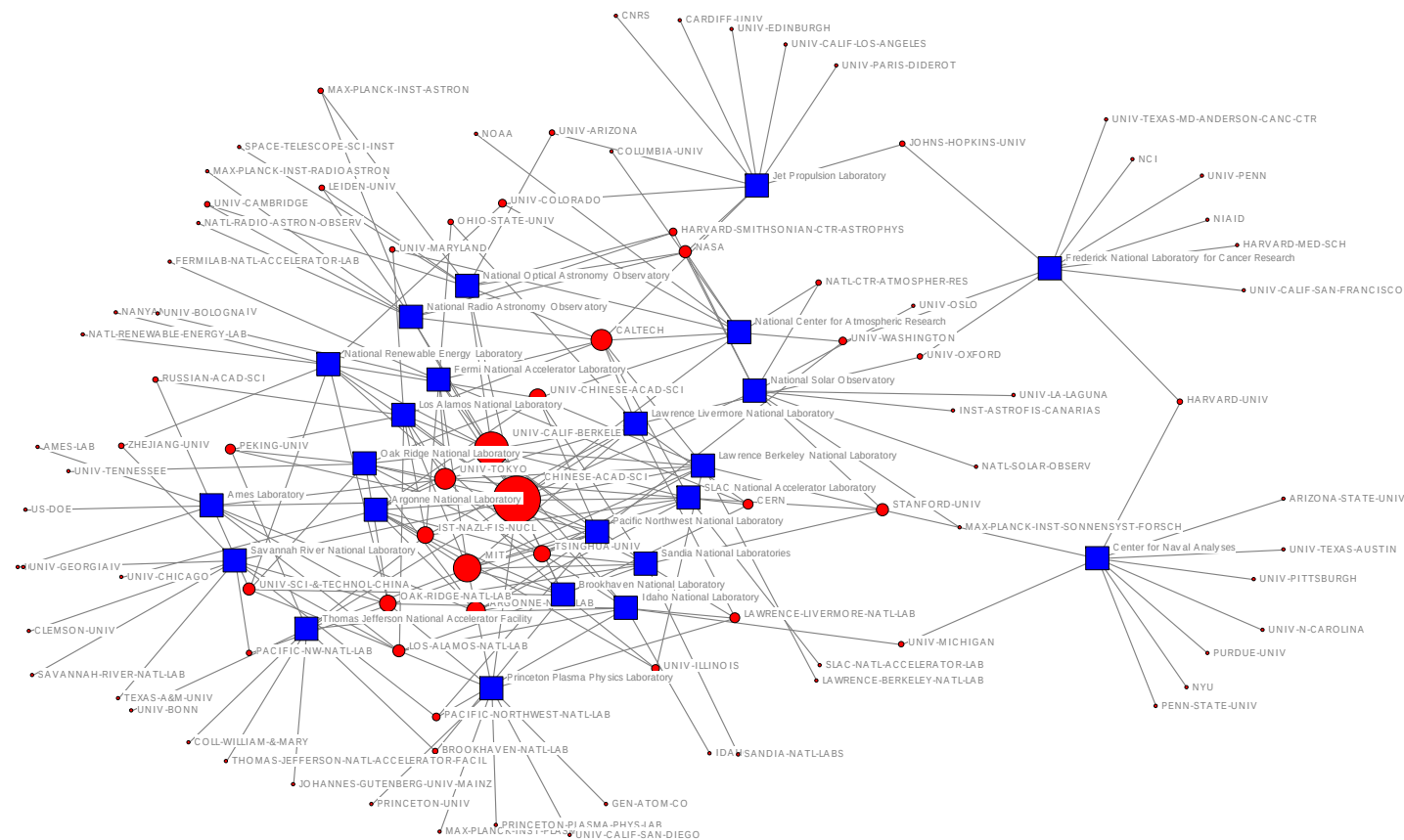
IMPACT OF LABS ACROSS INSTITUTIONS

TOP 20 INSTITUTIONS THAT CITE FFRDCS (2010-2018)

Institution	Total Citations
CHINESE-ACAD-SCI	107707
UNIV-CALIF-BERKELEY	48252
ARGONNE-NATL-LAB	36557
MIT	35420
CALTECH	33915
UNIV-TOKYO	33732
UNIV-CHINESE-ACAD-SCI	31783
OAK-RIDGE-NATL-LAB	30558
TSINGHUA-UNIV	30067
PEKING-UNIV	29642
IST-NAZL-FIS-NUCL	28954
UNIV-ILLINOIS	28587
UNIV-OXFORD	27911
UNIV-WISCONSIN	27070
CNRS	26670
UNIV-SCI-&-TECHNOL-CHIN	26588
STANFORD-UNIV	26405
UNIV-MARYLAND	26325
UNIV-CAMBRIDGE	26162
OHIO-STATE-UNIV	26132

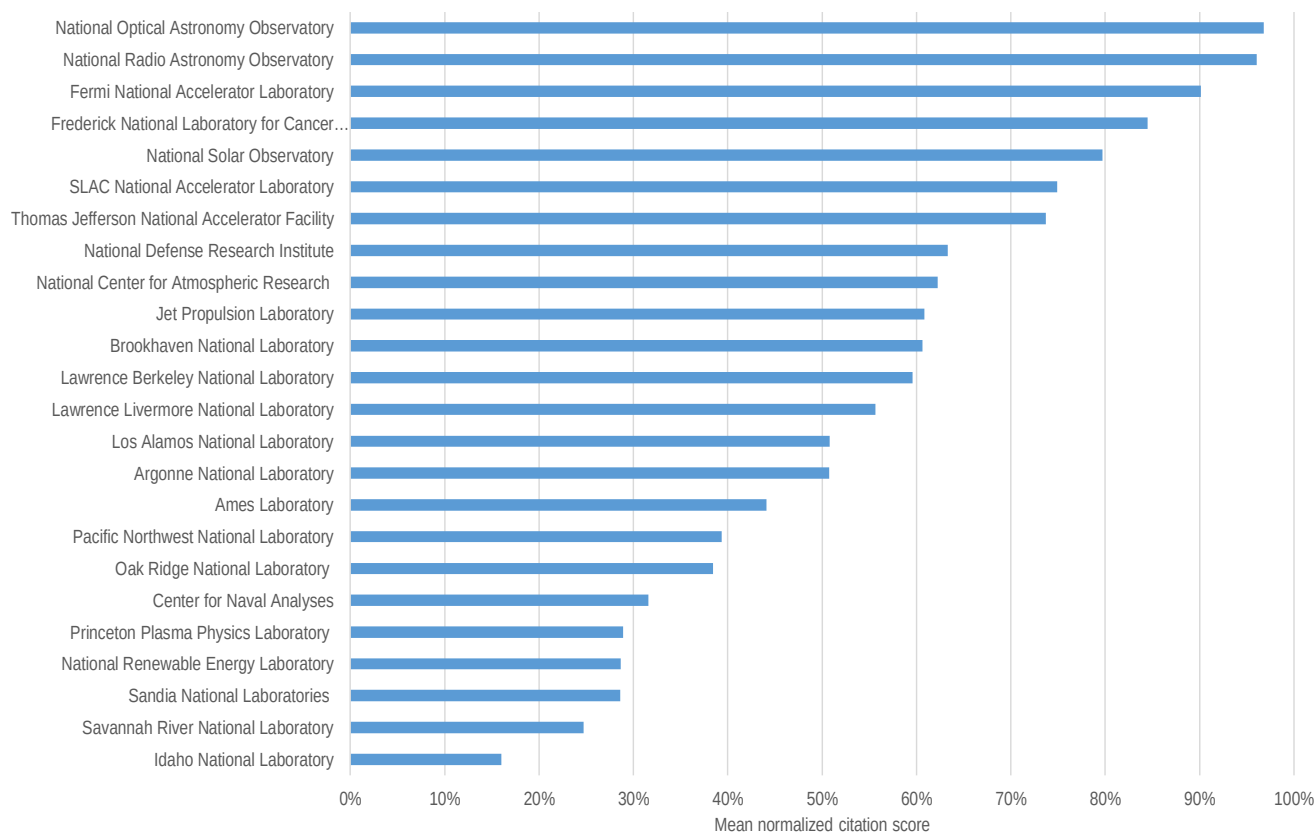
IMPACT OF LABS BY INSTITUTIONS

TOP 10 INSTITUTIONS THAT CITE EACH LAB (2010-2018)



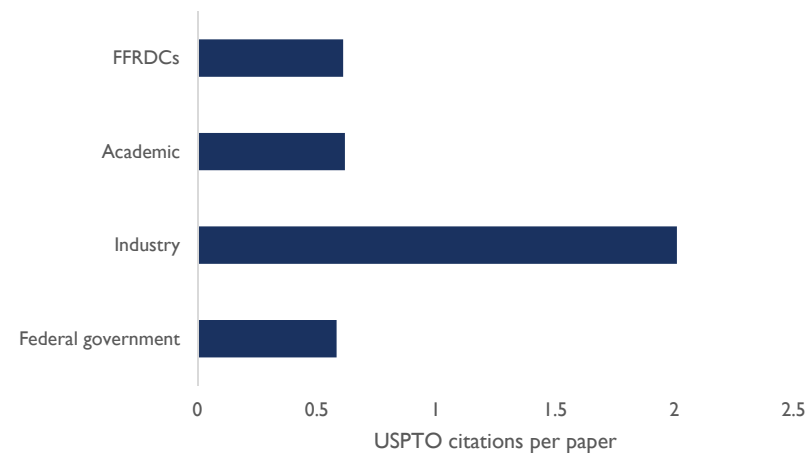
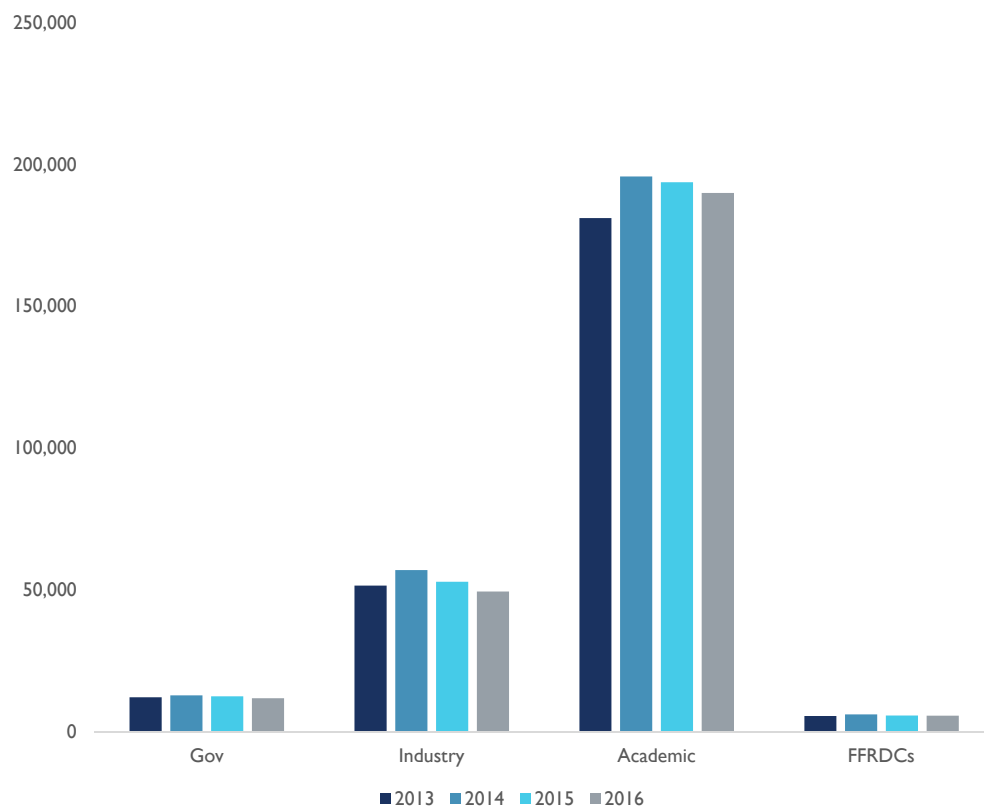
PROPORTION OF PAPERS THAT ARE OPEN ACCESS

WOS (2010-2018)



CITATIONS FROM USPTO UTILITY PATENTS TO S&E ARTICLES

SCIENCE AND ENGINEERING INDICATORS (2013-2016)



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