

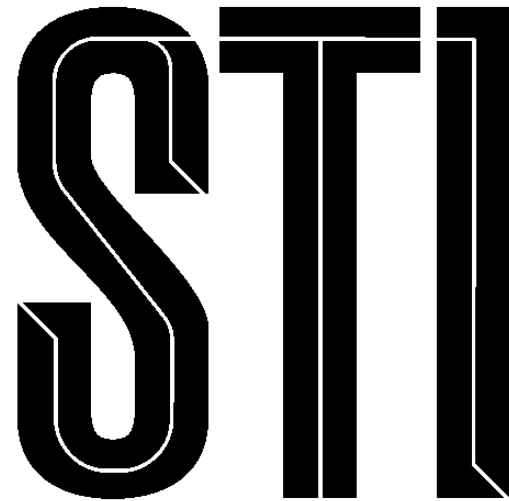


STI

SCIENTIFIC AND TECHNICAL
INFORMATION PROGRAM

A Century of Research (That's Right, 100 years)

A presentation for the 2017 Federal Depository Library Conference
October 17, 2017



SCIENTIFIC AND TECHNICAL
INFORMATION PROGRAM

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Presentation Points

- NASA and Its Predecessor, NACA
- STI Program History
- Collection, Services, and Awareness
- Partnerships
- Future Plans



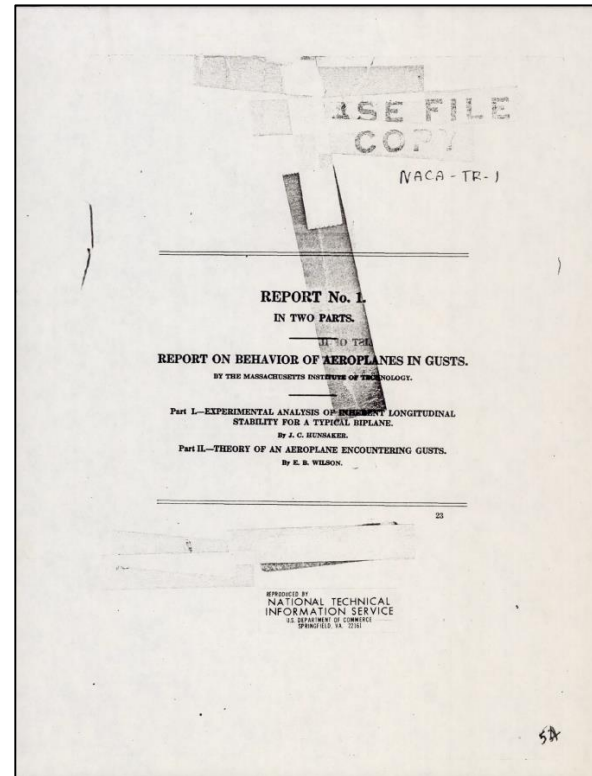


NASA and its Predecessor, NACA



National Advisory Committee for Aeronautics (NACA)

- March 3, 1915 - A rider to the Naval Appropriations Act established NACA for five years at \$5,000 a year
- Instituted to “supervise and direct the scientific study of the problems of flight, with a view to their practical solution”
- Construction began on the Langley Memorial Aeronautical Laboratory in 1917 in Hampton, VA
- Active years: 1915-1958



Report on Behavior of Aeroplanes in Gusts (NACA-TR-1)



Orders of Magnitude (NASA SP-4406)





Creation of the National Aeronautics and Space Administration (NASA)



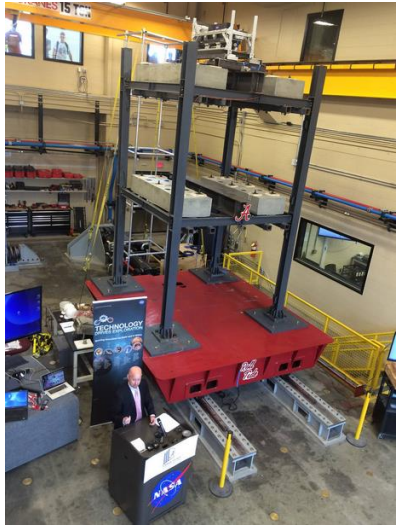
- History changed on October 4, 1957, when the Soviet Union successfully launched Sputnik I
- On January 31, 1958 the United States launched Explorer I
- On October 1, 1958 NASA was born from the National Advisory Committee for Aeronautics (NACA) and other government agencies
- *The Space Act: “The Administration... shall...provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof”*



NASA's seven original astronauts posed in front of a Convair F-106
Orders of Magnitude (NASA SP-4406)



The NASA You May Not Know



NASA Tests Earthquake Mitigation System at the University of Alabama in Tuscaloosa



Slimmed Down Aircraft Wing Expected to Reduce Fuel and Emissions by 50%



Phenolic-Impregnated Carbon Ablator (PICA) Heat Shield Technology is Used by SpaceX



Lightweight, Flexible Solar Arrays are Used by Troops in Desert Region



Airocide Air Purification Units Use NASA-Funded Technology

NASA Centers and Facilities



- Ames Research Center (CA)
- Armstrong Flight Research Center (CA)
- George C. Marshall Space Flight Center (AL)
- Goddard Space Flight Center (MD)
- Jet Propulsion Laboratory (CA)
- John C. Stennis Space Center (MS)
- John F. Kennedy Space Center (FL)
- John H. Glenn Research Center (OH)
- Langley Research Center (VA)
- Lyndon B. Johnson Space Center (TX)
- Wallops Flight Facility (VA)
- White Sands Test Facility (NM)



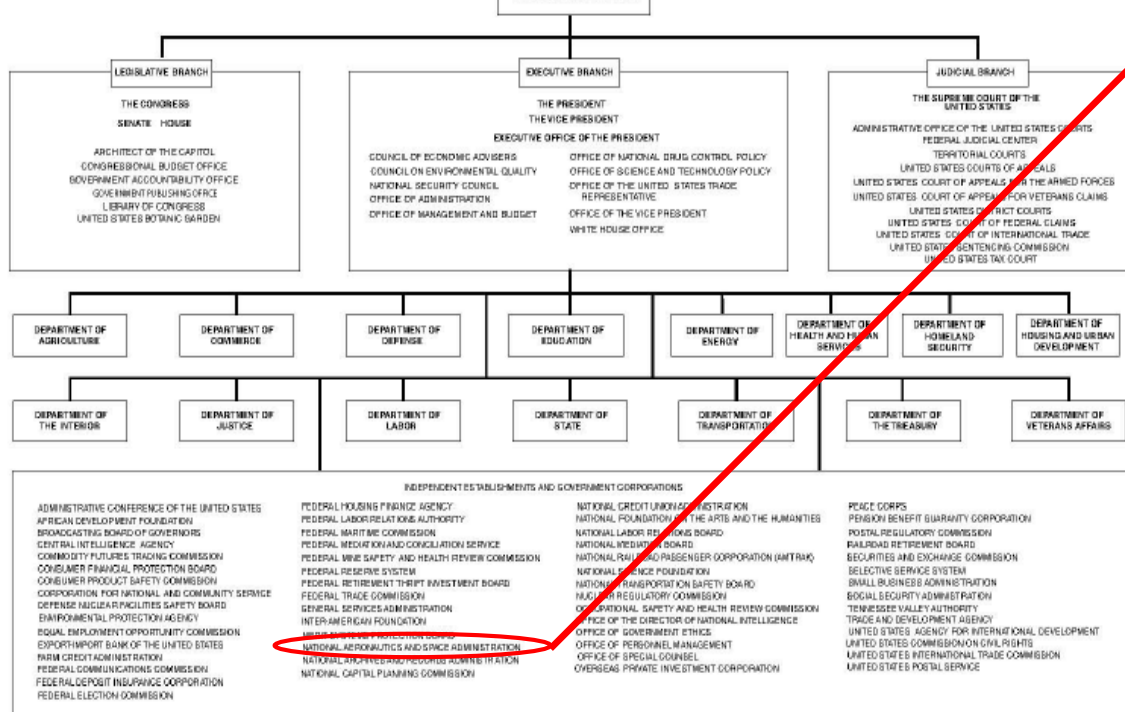
The STI Program History



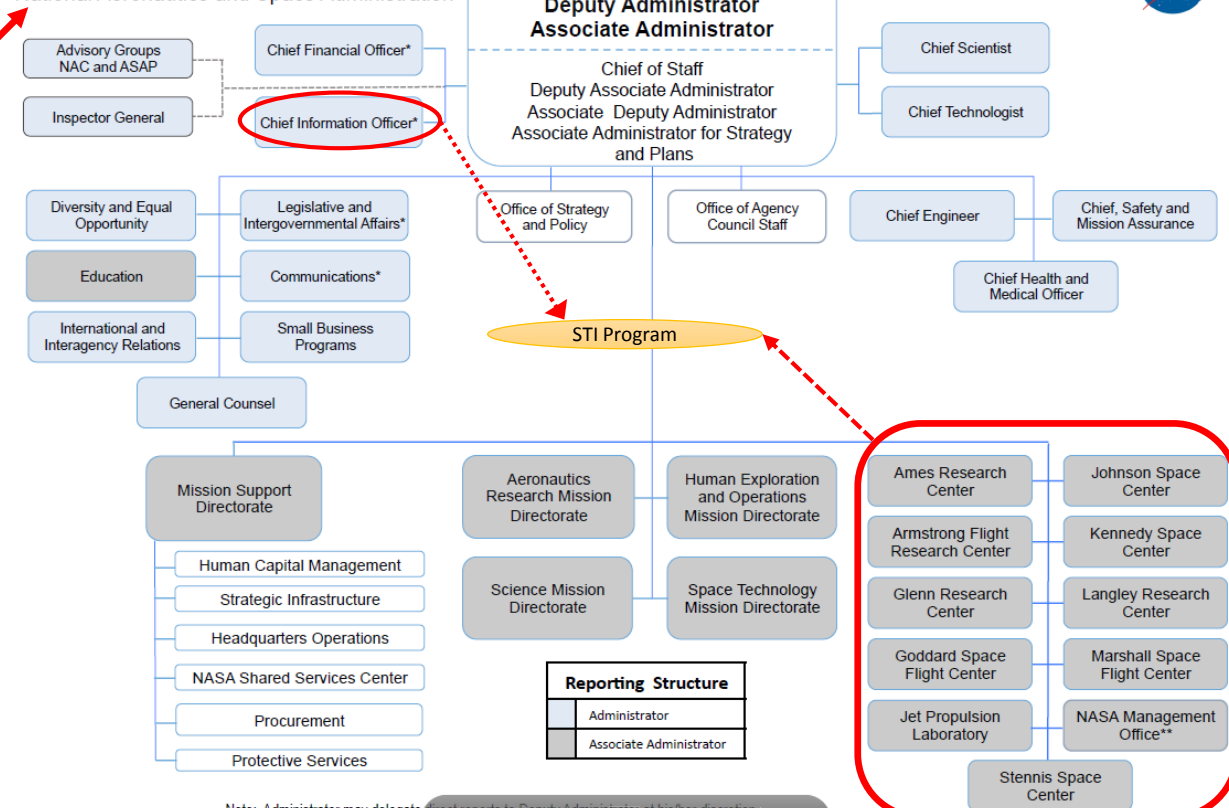
NASA Organization in Pictures

THE GOVERNMENT OF THE UNITED STATES

THE CONSTITUTION



National Aeronautics and Space Administration



Note: Administrator may delegate direct report* to Deputy Administrator at his/her discretion.

NASA accounts for a



of every federal budget





Building on the Past: STI's Long History

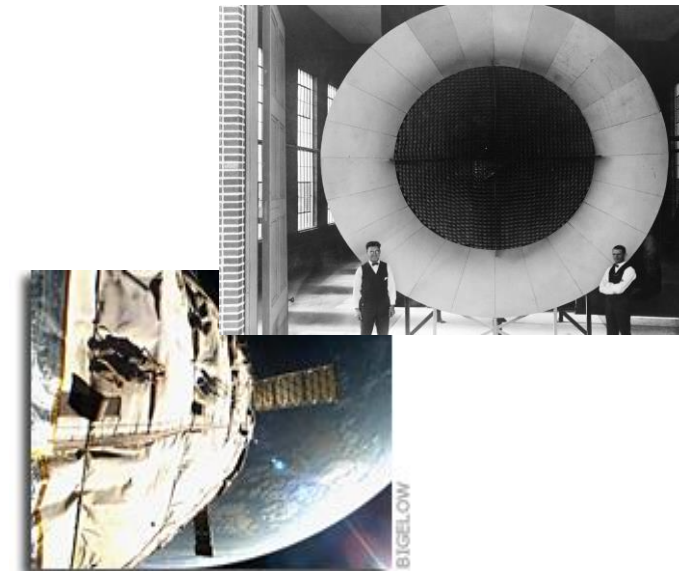


- Program dates to National Advisory Committee for Aeronautics (NACA)
 - First technical report in 1915
 - 1929 Pearl Young appointed as NACA (Langley's) Chief Technical Editor
 - Formed a new office, hired staff, established research reports and documents standards to communicate the work of NACA
- National Aeronautics and Space Act - NASA (1958)
 - NACA installations and new NASA installations begin formalizing STI
- 1961-1981, STI Facility (STIF), Washington, DC
 - Use of computer to produce index-abstract journal
 - Early automated search and retrieval system, Remote Console (RECON)
- 1982-2015, Center for AeroSpace Information (CASI)
 - Consolidated center TRSs with the NASA Technical Reports Server
 - Digitized the NASA STI collection
- 1990, HQ Office of Management, Information Resource Management
- 1996, HQ Code J; Langley becomes Lead Center for
 - Day-to-day program implementation
 - Policy and procedural aspects
 - Contract for and monitoring of NASA Center for AeroSpace Information (NASA CASI)
- 2006, HQ, Agency CIO, with Cost, Schedule, and Performance Agreement between Agency and Langley CIOs, STI Program Office
- 2015-2016, CASI Closes/All systems and services moved to the STI Program Office at NASA Langley



Pearl Young

First woman hired as a technical employee, a physicist, of the National Advisory Committee for Aeronautics (NACA).





Paris Office

- June, 1919 - Paris office of the NACA opened with William Knight in charge
- “General functions...are to collect and exchange reports, data, and miscellaneous information of a purely technical and scientific nature relating to aeronautics; to translate this information, and to prepare abstracts of important articles relating to aeronautics appearing in European scientific publications”



(5th NACA Annual Report (NACA-AR-5))

Many valuable documents dealing with important research problems in aeronautics have been secured by the Office of Aeronautical Intelligence, and copies have been distributed to those concerned with the problems involved.

The committee has established in connection with its Office of Aeronautical Intelligence, and particularly for the use of its engineering staff, a small selected library, containing the most useful and valuable aeronautical and technical books and publications.

4th NACA Annual Report (NACA-AR-4)



First 10 Acquisitions of the Langley Technical Library



Date June 4, 1924

NUMBER	AUTHOR	TITLE	PLACE & PUBLISHER	YEAR	PAGES	SIZE BIND'G	SOURCE	COST	CLASS	BOOK	VOL.
01	Greenhill, Sir G.	Dynamics of mechanical flight	N.Y. Van Nostrand	1912	121		05 (1912)	\$2.25	629.13	B83	
02	Maxim, Hiram	Artificial & natural flight	Whittaker & Co.	1909	166		01156 (1909)	1.95	629.13	M45	
03	Wilson, Edwin B.	Aeronautics	John Wiley	1920	265	Rebound 11-3-11"	01241 (1920)	3.72	629.13	W69	copy
04	Dixie, A. E.	Air navigation for flight officers	London, John Hoop	1917	223		0149 (1917)	2.73	629.13	D64	
05	Zahn, A. F.	Aerial navigation	N.Y. Dieffenbacher	1911	496		05 (1917)	2.65	629.13	Z12	
06	Hayward, C. B.	Practical aeronautics	The Am. Sch. Comm.	1912	784		0149 (1911)	3.15	629.13	H333	
07	Roustan-Bek, B.	Aerial Russia	N.Y. John Sans	1916	154		0149 (1911)	.65	629.1304	R76	
08	Hankin, E. H.	Animal flight	London, Haffer & Sons	1913	405		01135 (1914)	3.25	629.142	H192	
09	Duchene, Cam.	Flight without formulae	N.Y. Longmans Green	1916	211		06 (1917)	1.72	629.17	D85	
10	McAdie, Alexander	Principles of Aerography	N.Y. Rand McNally	1917	318		0302 (1917)	2.70	551.5	M12	113

First reference to the a technical library at Langley surfaces in NACA-AR-12
 (The U-50,000 and V-10,000 series were items cataloged from the NASA Libraries)



One of the Gems from NTRS



SUGGESTIONS FOR POPULARIZING CIVIL AVIATION

Prepared by Mrs. Elliott-Lynn

2. Only all-metal aeroplanes should be used for passengers; it would greatly encourage air travel if passengers were able to feel that the dreadful fate of being burned to death in the air or after an otherwise quite unimportant crash were guarded against to the greatest possible extent by the use of all-metal aircraft. It is now a matter of common experience that air travellers have far greater confidence in metal machines than in wood and fabric aircraft. Also, in all-metal aircraft smoking is permissible, which is an important item of comfort on long journeys.

NACA-SP-1

Document ID: 20090015031

From a 1926 conference paper by aviatrix and suffragist, Mrs. Elliott-Lynn (Lady Heath) aka "The Lady Lindy."



Collection, Services, and Awareness



Collection, Services, and Awareness

<https://ntrs.nasa.gov/>

<https://www.sti.nasa.gov/>



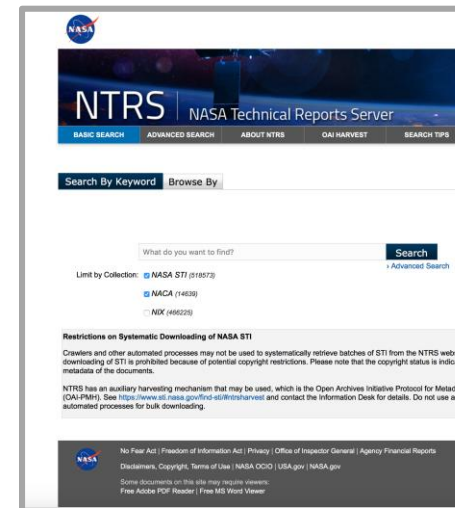
What is NASA STI?

STI is the documented results (the analyses of data and facts and resulting conclusions) of basic and applied scientific, technical, and related engineering research and development (R&D).

Documents reside in the NASA Technical Reports Server (NTRS) and/or the NASA Technical Reports Server- Registered (NTRS-R) which is restricted.

Examples:

- NASA Formal Report Series
Technical Papers, Technical Memoranda, Contractor Reports, Special Publications, Conference Proceedings
- Journal articles
- Meeting/conference papers/presentations
- Abstracts/extended abstracts
- Books and book chapters
- STI documents on public Web sites
- Theses and dissertations
- Final contractor and grantee reports





NASA Technical Report Server (NTRS) – Public

- By the numbers
 - 535,047 NASA/NACA records
 - 466,225 NIX (photo) records
 - 262,258 Full-text (PDFs)
 - 77,433 External links
- Publication Types
 - 150,687 Technical Report
 - 128,263 Conference Paper
 - 114,038 Journal Article
 - 42,783 Preprint
 - 24,045 NASA Tech Brief
 - 16,530 Conference Proceedings
 - 12,322 Oral/Visual Presentation
- Predecessor systems
 - NASA RECON
 - ASAP
 - Center-hosted TRSs
- Associated Systems
 - NASA Aeronautics and Space Database (NA&SD)
 - NTRS – Registered

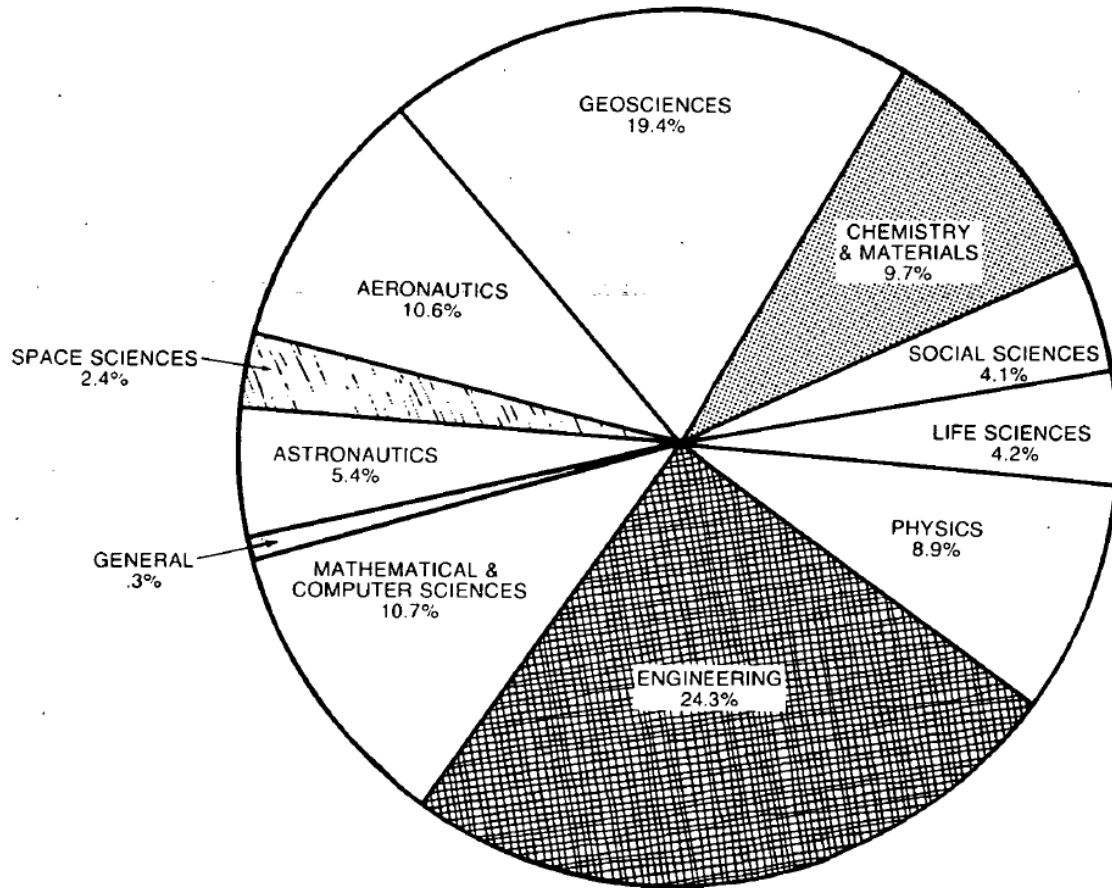
Harvest from the NTRS

- Via Open Archives Initiative Protocol (OAI)
- Formats: **oai_dc** and **casi_dc** — a more inclusive record format based on Dublin Core and supplemented with NASA terms

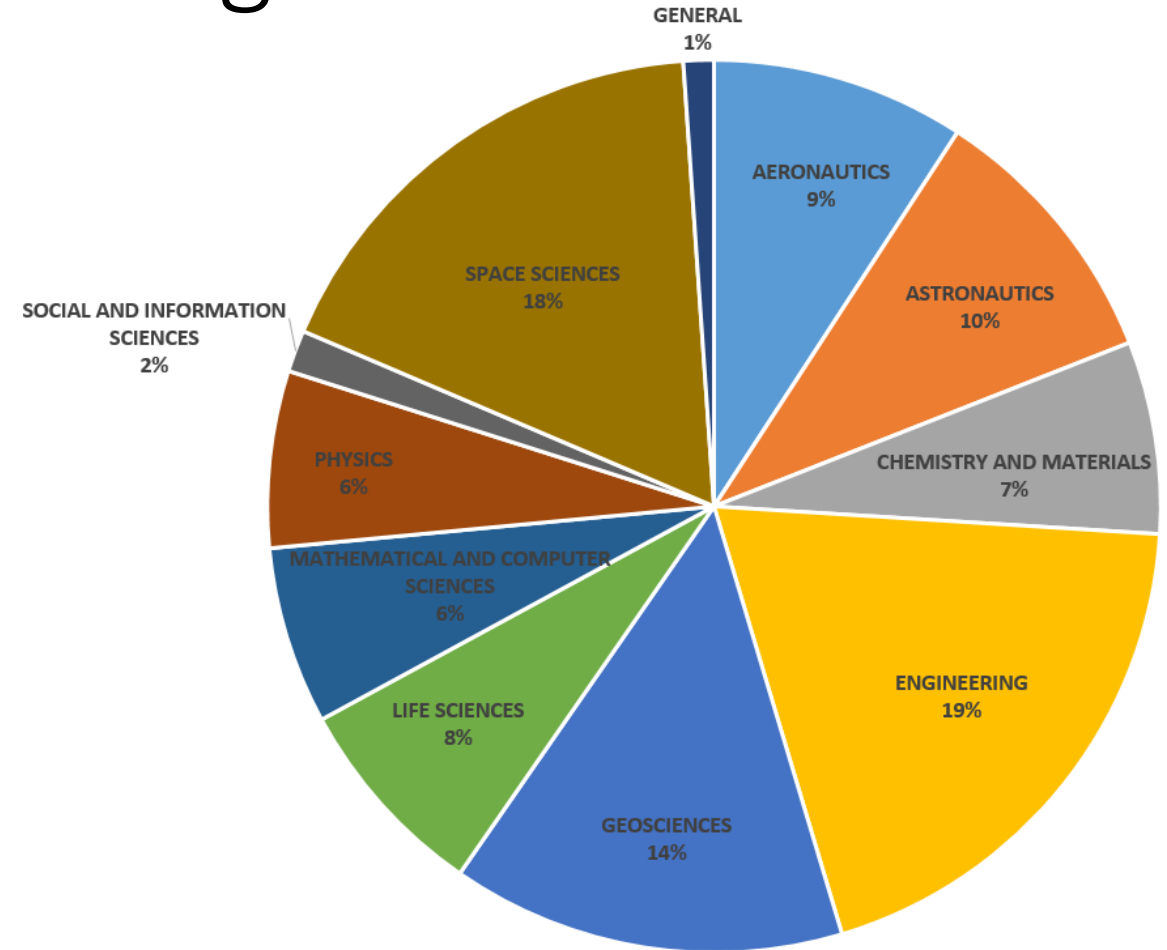
<https://ntrs.nasa.gov/>



NASA STI Subject Coverage



NASA/Recon: User's Reference Manual, 1984



Breakout from NTRS Registered, 2017

August 2017 NTRS Public Statistics per Google Analytics

291K

3.07M Last 12 Months

<http://ntrs.nasa.gov/>
P a g e v i e w s

Top Ten Documents Downloaded

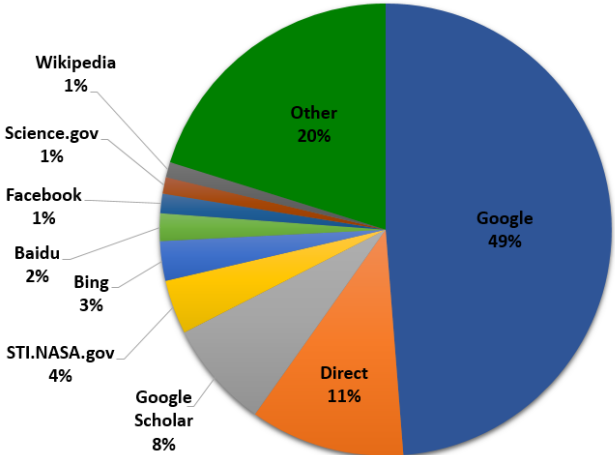
1. NASA Systems Engineering Handbook, NASA/SP-2016-6105 Rev 2
2. Warp Field Mechanics 101, JSC-CN-24651
3. Summary of Airfoil Data, NACA-TR-824
4. Eagleworks Laboratories: Advanced Propulsion Physics Research, JSC-CN-25207
5. Derivation and definition of a linear aircraft model, NASA-RP-1207
6. Expanded Guidance for NASA Systems Engineering. Volume 1: Systems Engineering Practices, NASA/SP-2016-6105/SUPPL/Vol 1
7. Determination of Azimuth Angle at Burnout for Placing a Satellite Over a Selected Earth Position, NASA-TN-D-233
8. CFD Vision 2030 Study: A Path to Revolutionary Computational Aerosciences, NASA/CR-2014-218178
9. Integrated Pressure-Fed Liquid Oxygen / Methane Propulsion Systems - Morpheus Experience, MARE, and Future Applications, JSC-CN-35060
10. Power Transistor Cooling in a Space Environment, NASA-TN-D-1753

140K

1.00M Last 12 Months

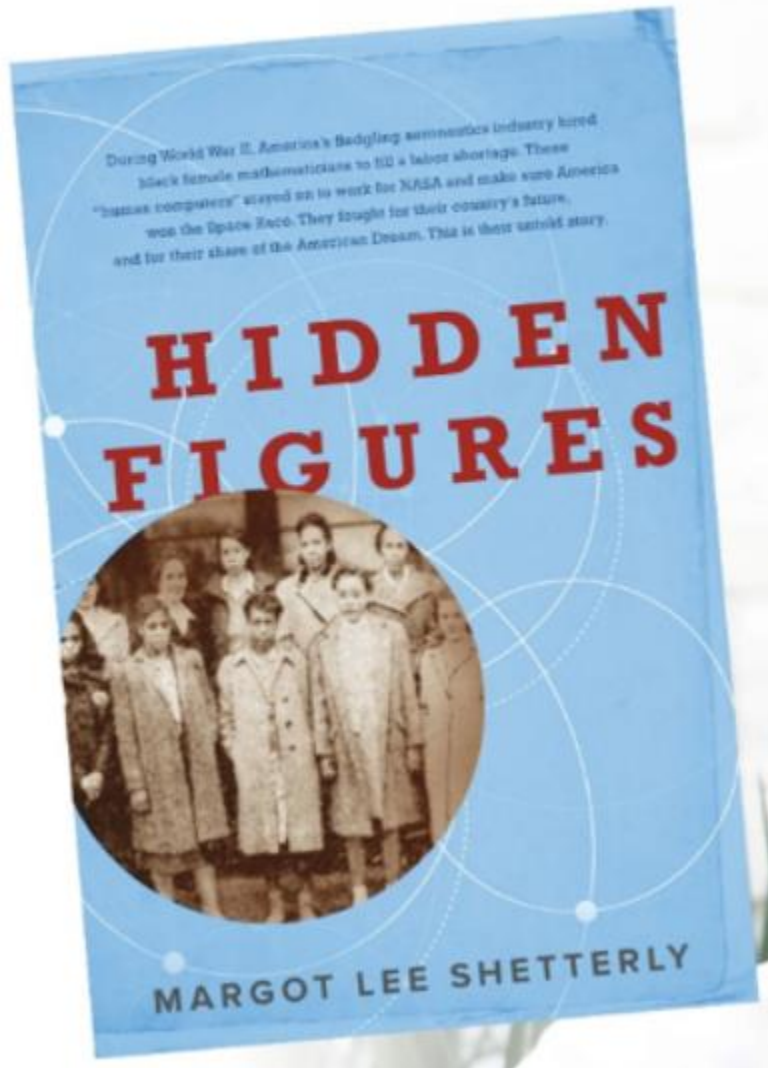
D o w n l o a d s

Traffic Coming From:





Hidden Figures and New Construction



Katherine Johnson is seen after President Barack Obama presented her with the Presidential Medal of Freedom





The Information Desk and STI Resources

Have a question?

Looking for a document?

Email: help@sti.nasa.gov

Phone: 757-864-9658

Form: <https://www.sti.nasa.gov/sti-order-form/>

Handle around 150 requests per month

- *NASA Thesaurus*
- *NASA Scope and Subject Category Guide*
- *NASA Publication Guide for Authors (NASA/SP-2015-7602 (Rev.2))*
- *Grammar, Punctuation, and Capitalization: A Handbook for Technical Writers and Editors (NASA-SP-7084)*



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YouTube Search

NASA Kennedy Space Center - Home of the Commercial Crew Program

892 views

NASA STI Program
Published on Aug 9, 2017

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NASA Scientific and Technical Information (STI) Program
4 mins

Happy Birthday Dawn Mission! 🎉

Ten years ago, NASA's Dawn spacecraft set sail bound for the asteroid belt between Mars and Jupiter. It's mission to explore the giant asteroid Vesta and dwarf planet Ceres. Included in it's numerous technical and scientific feats is an impressive scrapbook of over 88,000 images from both Vesta and Ceres. Read more at the link below, then learn the Dawn

Government Organization

Community See All

1,452,534 people like this

1,443,194 people follow this

About See All

www.sti.nasa.gov

Government Organization

@NASA.STI.Program

1,452,534 likes

NASA STI @NASA_STI

The NASA Scientific and Technical Information (STI) Program collects, organizes, preserves, and distributes NASA STI.

United States of America

sti.nasa.gov

Joined July 2009

379 Photos and videos

Tweets 21.1K Following 364 Followers 28.8K Likes 12 Moments 1

Follow

Tweets Tweets & replies Media

NASA STI @NASA_STI · 22h
Amazing image of Earth taken by @OSIRISREx's MapCam. [nasa.gov/image-feature/...](https://nasa.gov/image-feature/) Learn more at #NTRS: go.usa.gov/xRhjW

@NASA_STI

28.8K Followers



Partnerships



Letter of Agreement with GPO

- NASA will:
 - a. Provide no-fee, public access to the public NTRS;
 - b. Preserve the electronic files on a secure location to ensure that content (electronic files) on the external Web site can be republished as needed. A secure location in this context means that publicly available content on the public NTRS site is not the sole copy of that content, is backed up at another location, and can be republished as needed;
 - c. Ensure that the information on the NTRS public site does not contain classified or otherwise non-disclosable information;
 - d. Advise GPO of any plans to migrate, reconstitute, or otherwise significantly modify the structure of the information content other than routine refreshing of the resource;
 - e. No longer submit monthly files of NTRS publications to GPO ;
 - f. To comply with 44 U.S.C. §§ 1902, 1710 and 4101, transfer to GPO the access and native files for the public NTRS, any associated metadata records, and project documentation to include reports of export control reviews and provide assistance to GPO staff during the transfer of files should NASA terminate this LOA so GPO can make alternate arrangements to ensure FDLP access to the NTRS publications;
 - g. Notify GPO of a withdrawal of or modification of a publication from the NTRS due to export-control concerns.
- NASA entered into the agreement committed to providing public access to its research findings and upholding the Space Act phrase “widest practicable and appropriate dissemination of information.”



Other Partnerships

- National Technical Information Service (NTIS)
 - Receives publically available NASA STI and metadata monthly
- National Archives and Records Administration (NARA)
 - Annual transfer of publically available NASA STI and metadata via ERA
 - Paper collection stored at FRC in Suitland
- National Institutes of Health (NIH)
 - PubMed Central (PMC) used for NASA's Peer-reviewed, Accepted Manuscripts (aka PubSpace...aka Research Access)
 - *More next slide...*
- CENDI (the Federal STI Managers Group)
 - Volunteer-powered membership organization that serves the federal information community
 - Science.gov - 60 databases and over 2,200 scientific websites
- ProQuest
 - Recently signed second agreement to exchange metadata



Research Access/PubSpace at NASA

- Call to action put out by the OSTP
[Increasing Access to the Results of Federally Funded Scientific Research](#) (February 22, 2013) OSTP Memo
- NASA studied the problem and produced a response
[NASA Plan for Increasing Access to the Results of Scientific Research](#) (December 2014) NASA Publication 2015-05-1796-HQ
- NASA developed policy to support plan
[Research Data and Publication Access](#) (January 14, 2016) NASA Policy Directive 2230.1
- Existing policy aligned to plan
[Requirements for Documentation, Approval and Dissemination of Scientific and Technical Information](#) (September 07, 2016)
NASA Procedural Requirements 2200.2D
- Policy injected into grant terms and conditions
Grants Terms and Conditions approved for use starting November 28th 2016, [Federal Register Vol. 81, No. 208](#) pp.74657-9
- Forthcoming
NPR 2230 (holding pattern)
NFS changes for research contracts (Procurement restarting work on action)

<https://www.nasa.gov/open/researchaccess>



Future Plans



STI Strategic Plan

STI Program Vision

Showcase NASA's research to stimulate future discoveries

STI Program Mission

Ensure stewardship and promote NASA's scientific and technical information to further innovation and discovery

STI Program Goal 1

Capture and disseminate trusted content to enable discovery and informed decisions

STI Program Goal 2

Ensure agile infrastructure

STI Program Goal 3

Foster and leverage operational and strategic relationships



Watermarking

<https://ntrs.nasa.gov/search.jsp?R=20170007961> 2017-09-18T20:06:03+00:00Z

NASA/TM—2017-219521



Overview of the Acoustic Testing of the European Service Module Structural Test Article (E-STA)



The People Behind the Program



STI Program Office Staff



Center STI Managers and Staff



My Dept finds the availability of NASA reports, including those from the 1980s and before, an often invaluable resource for the evaluation of materials properties. Such reports often prevent the needless repeating of expensive testing, and/or provide indications of where our future research should take us.

An ALSTOM Transverse Technologies employee

Tell us what you think!

Thank You!

Gerald.Steeman@nasa.gov