



Project CADRE  
**Accessibility Update Report**

Oct 25, 2020

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# Contents

Method	1
The High-level accessibility review by Deque	2
Future Improvements	2
CADRE Website Information Architecture: Before & After	3
Accessibility Changes on CADRE Website	4
Accessibility Changes on CADRE Gateway	24

# Method

The WAVE (Web Accessibility Evaluation Tool) Chrome plugin was used to review all pages in the CADRE website and the CADRE Gateway to identify any accessibility issues. Then, screenshots of the existing version of each page were taken and uploaded into Zeplin. The suggested accessibility-related UI/UX changes and errors and/or alerts that the WAVE plugin reported were made in Zeplin through the "Comments" function and pushed to the web developer to be implemented on the website.

All changes were implemented and rolled out to the end-user version of CADRE on Oct. 21, 2020, in CADRE's beta launch.

# The High-level accessibility review by

Deque conducted High-level Accessibility Review of CADRE and shared its report with the Big Ten Academic Alliance (BTAA). Deque's report pointed out several accessibility issues on the CADRE website and Gateway, including color contrast, missing programmatic association, and name-role value problems where elements are not semantically identified as interactive elements.

Deque's review also listed other less prominent accessibility issues following the corresponding WCAG 2/2.1 AA/AAA Success Criteria.

Many of the accessibility issues listed in the Deque report are not directly visible, such as semantics issues, missing/blank/incomprehensive alt text, controls/interactive elements that are not keyboard-focusable, etc. Through collaboration with CADRE's lead developer, most of these issues are fixed, and changes have been rolled out in the beta launch.

## Future Improvements

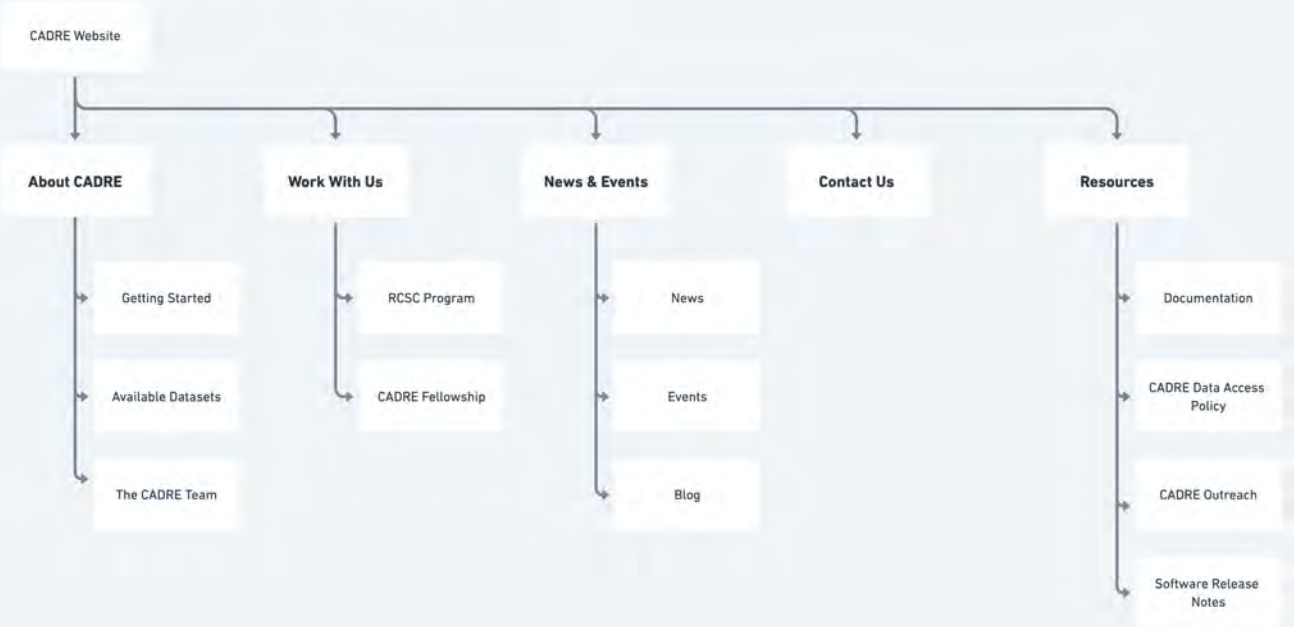
It is necessary to take into consideration that CADRE is currently only in its beta phase and will continue to go through a lot more major changes both functionally and interaction-wise. In CADRE's current stage, identified accessibility issues we plan to improve in the future include users being timed out of the Gateway without warning and structural enhancements for screen readers.

After the beta launch CADRE will only have one active and open instance (previously there was a stable public version and a less stable development-only version). Future changes will be available directly to all users.

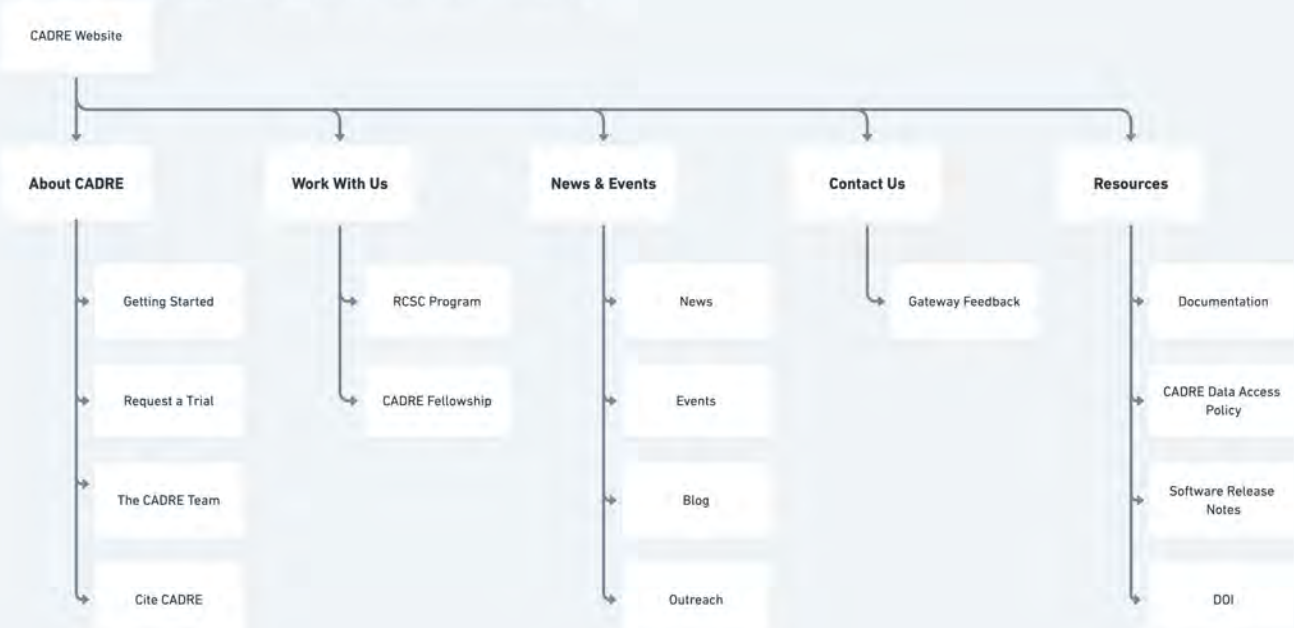


# CADRE Website Information Architecture: Before & After

Old CADRE Website Information Architecture



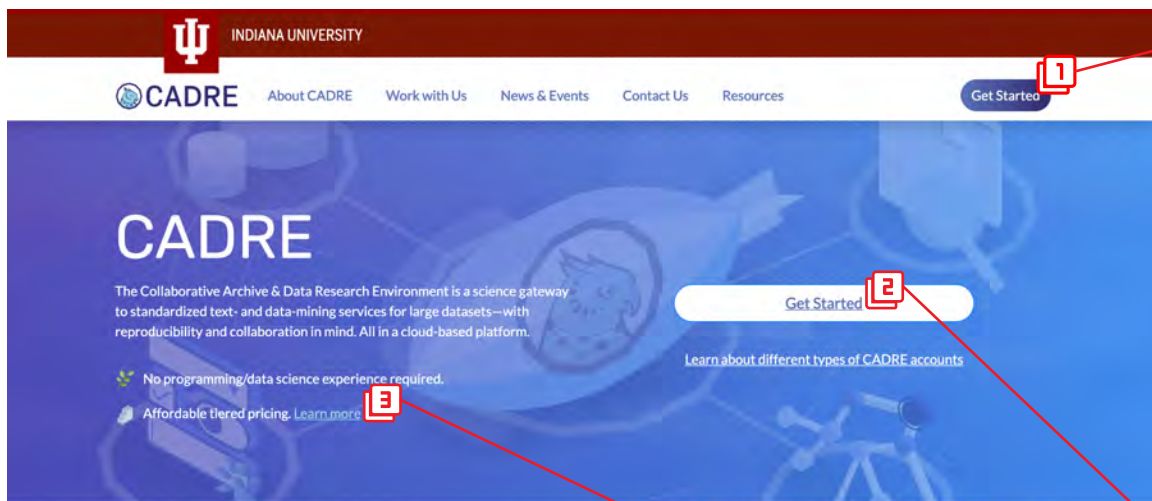
Updated CADRE Website Information Architecture



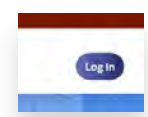
# CADRE WEBSITE

## Homepage

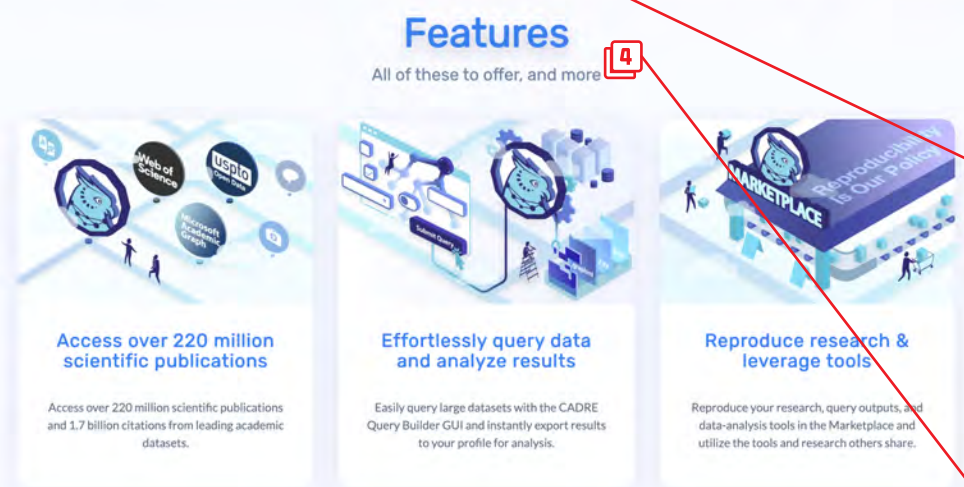
https://cadre.iu.edu/



1 UX Copywriting. Changed from *Get Started* to *Log In* to ensure consistency and adopt common UX patterns in web design.



2 General accessibility. Enlarged font size from 1.25rem to 1.5 rem.



3 Contrast. The light blue Learn More does not provide sufficient contrast against the background illustration. Additional copywriting changes were also made.



4 Contrast. See also 4 on the next page. Updated from #7285a3 to #4D5575, new contrast ratio: 7.07:1, WCAG 2.1 AAA compliant.

[Browse All News](#)

Events

8/19 **Postponed: Fellows Webinar: Comparative analysis of legacy and emerging journals in mathematical biology**  
2020

Our fellowship team from the University of Michigan, Ann Arbor, will present their comparative analysis on papers published in mathematical biology legacy journals and newer journals.

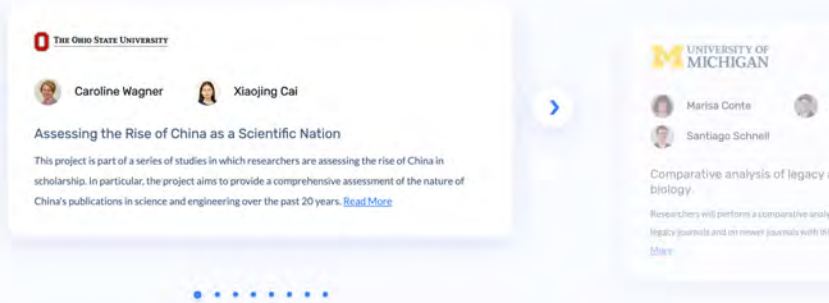
10/21 **Fellows Webinar: The global network of air links and scientific collaboration – a quasi-experimental analysis**  
2020

The fellow team will discuss the impact of the introduction and availability of long-distance flights on international scientific collaboration.

[Browse All Events](#)

## CADRE Fellows

Meet the community of researchers who are using CADRE to advance their research



4

5

Contrast issue; visual aesthetics. All underlined text removed. Font color of all links in footer changed to #1451B3. Font size of top-level links updated to 1.2em from 1em. Updated/added/removed links in the footer as needed.

## SUBSCRIBE TO OUR NEWSLETTER

Be the first to know about all of the important CADRE news and updates.

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Stay Informed

5



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[Getting Started](#)  
[Available Datasets](#)  
[The Team](#)

[Work with Us](#)  
[RCSC Program](#)  
[CADRE Fellowship](#)

[News & Events](#)  
[News](#)  
[Events](#)  
[Blog](#)

[Contact Us](#)

[Resources](#)  
[Documentation](#)  
[CADRE Data Access](#)  
[Policy](#)  
[CADRE Outreach](#)  
[Software Release](#)  
[Notes](#)

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[Contact Us](#)  
[Gateway Feedback](#)

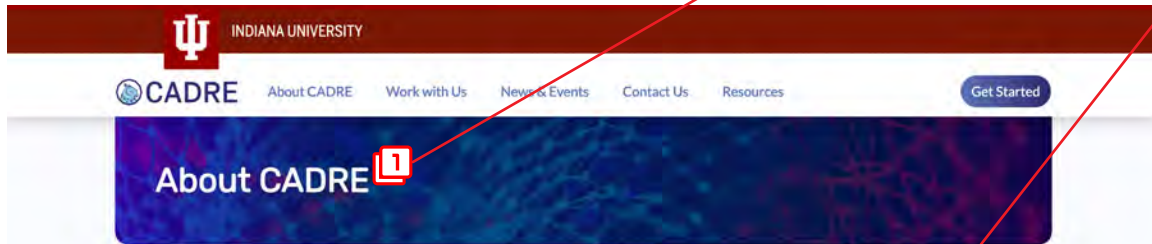
[Resources](#)  
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[Policy](#)  
[Software Release](#)  
[Notes](#)  
[DOI](#)



# CADRE WEBSITE

## About CADRE

<https://cadre.iu.edu/about-cadre>



1 Structure & general accessibility.  
Ensured the page title is <h1> for easy Assistive Technology navigation.

Home > About CADRE

CADRE addresses the IMLS' "National Digital Platform" priority area by addressing a critical emergent issue faced by academic libraries: providing sustainable, affordable, and standardized text- and data-mining services for licensed big datasets, as well as open and non-consumptive datasets too large or unwieldy to work with in existing research library environments. By sharing costs across a large number of academic libraries, CADRE will create a cloud-based solution for making these data available to its member institutions--with appropriate security, stewardship, and storage--at a fraction of what it would cost them to do alone.



2 General accessibility.  
Image missing alt text. Added "CADRE project logo" as alt text.

### > Features 5

- Access major datasets: access Web of Science, Microsoft Academic Graph, and U.S. Patent and Trademark Office data
- Private profile: store query outputs, data-analysis tools, and research results in a profile
- CADRE Query Builder: use this user-friendly GUI query-builder to easily query datasets
- Jupyter Notebook: proficient coders can build data-analysis and visualization tools here
- Marketplace: reproduce queries, tools, derived data, research results, workflows, and visualizations--and utilize what others share

### > Partners 5

This platform was built as part of the Shared BigData Gateway for Research Libraries (SBD-G) project, which is made possible by a [two-year IMLS grant](#). The project is led by [Indiana University Libraries](#), in collaboration with the [Indiana University Network Science Institute](#) and the [Big Ten Academic Alliance](#). This project is additionally supported by a group of cross-industry partners that you can read more about [here](#).

### > Datasets 5

Our platform is currently seeded with a combination of open and licensed bibliometric datasets, including Microsoft Academic Graph, Web of Science, and U.S. Patent and Trademark Office data. You can learn more about these datasets by visiting the [Available Datasets](#) page. You can also review documentation for the datasets, as well as our [CADRE Data Access Policy](#) on our [Resources](#) page.

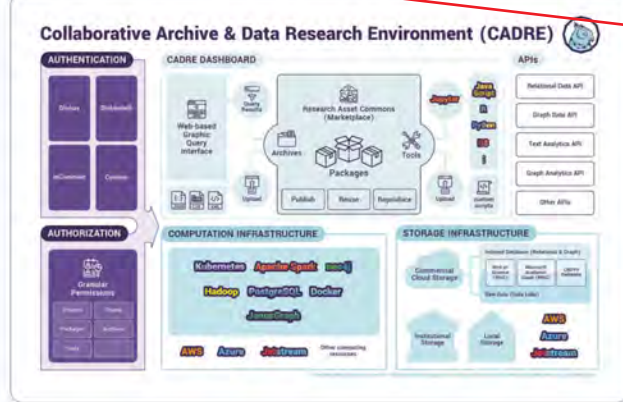
### > Demos & Instructions 5

If you are a new user trying to learn more about how to work with the platform, visit our [Resources](#) page which informational videos and demos. You will also learn how you can access data as general user and submit stories that will improve the CADRE platform.

### > Stay Updated 5

CADRE is moving fast and changing each day. To stay in the loop, subscribe to [our newsletter](#) and follow us on Twitter at [@CADRE\\_Project](#).

### > Diagram 5



3 Contrast.  
Text color for all breadcrumb links is updated to **#1451B3** from **#7285A3**. New contrast ratio 7.16:1, WCAG 2.1 AAA compliant.

4 Contrast; readability.  
Text color for all text links updated to **#1451B3** from **#007BFF**, including all in-paragraph links. New contrast ratio 7.34:1, WCAG 2.1 AAA compliant.  
Content font size updated to 1.1em.

our [Resources](#) page to w  
s that will improve the C.

5 Structure; general accessibility.  
Removed bullets before each section title; made all section titles <h3> for better page structure.

See also other 5 on this page.

Stay Updated  
CADRE is moving fast and c  
CADRE Diagram

The following pages are not included in this report because they does not involve any major page-specific accessibility change and/or updates.

**Getting Started** (<https://cadre.iu.edu/about-cadre/get-started>)

**Available Datasets** (this page has been deprecated; useful content has been merged into other proper pages)

# CADRE WEBSITE

## About CADRE > The Team

<https://cadre.iu.edu/about-cadre/the-team>

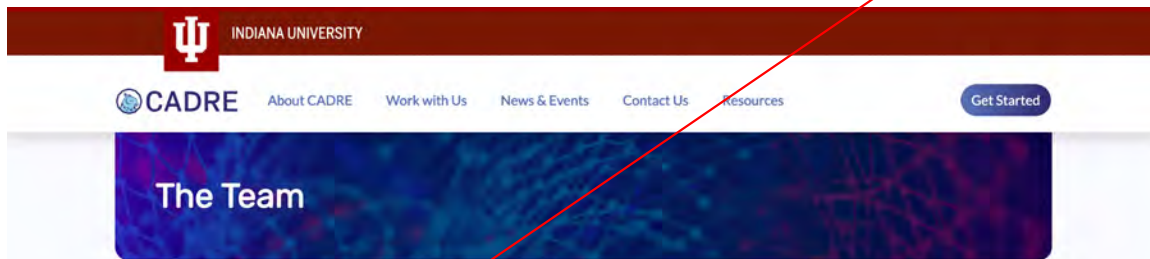
1 Structure & general accessibility.

See also other 1 on this and the next page.

Made all section titles <h3> with text color #4D5575, proving contrast ratio of 7.07:1 against the background (#F4FBFF) which is WCAG AAA 2.1 compliant.

2 Readability; visual aesthetics.

New layout improved readability, made the page layout more efficient.



[Home](#) > [About CADRE](#) > [The Team](#)

CADRE Project Leads:



Jaci Wilkinson

Project Director; Head, Discovery and User Experience at Indiana University Libraries

Jamie Wittenberg

Project Co-Director; Assistant Dean for Digital Strategy and Information Technology Services at the University of Colorado Boulder

Patricia Mabry

Project Co-Director; Research Investigator at Health Partners Institute

Valentin Pentchev

Project Co-Director; Director of Information Technolgy at Indiana University Network Science Institute

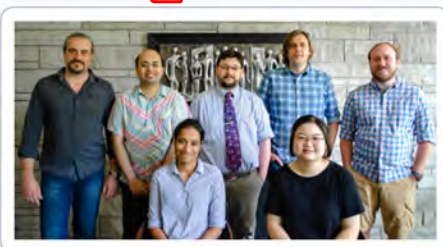
Xiaoran Yan

Project Co-Director; Research Scientist at Indiana University Network Science Institute

Robert Van Rennes

Project Co-Director; Assistant Director of Library Initiatives at Big Ten Academic Alliance

CADRE IT Team



Valentin Pentchev

Project Co-Director; Director of Information Technolgy at Indiana University Network Science Institute

Ben Serrette

Lead Software Engineer and Web Application Developer at Indiana University Network Science Institute

Matthew Hutchison

Data Manager at Indiana University Network Science Institute

Marc McCarty

CADRE Project Director



Jaci Wilkinson

Head, Discovery and User Experience at Indiana University Libraries

CADRE Project Co-Directors



Jamie Wittenberg

Assistant Dean for Digital Strategy and Information Technology Services at the University of Colorado Boulder



Patricia Mabry

Research Investigator at Health Partners Institute



Valentin Pentchev

Director of Information Technology at Indiana University Network Science Institute



Xiaoran Yan

Research Scientist at Indiana University Network Science Institute



Robert Van Rennes

Assistant Director of Library Initiatives at Big Ten Academic Alliance



Ben Serrette

Lead Software Engineer and Web Application Developer at Indiana University Network Science Institute



Matthew Hutchison

Data Manager at Indiana University Network Science Institute



Chathuri Pelli Kankanamalgage

Senior Systems Developer at Indiana University Network Science Institute



Matthew Hutchinson

Data Manager at Indiana University Network Science Institute

Marc McCarty

Associate Full Stack Developer at Indiana University Network Science Institute

Chathuri Peli Kankanamalage

Senior Systems Developer at Indiana University Network Science Institute

Jessie Ma

UI/UX Designer at Indiana University Network Science Institute

Not pictured:

Filipi Silva

Research Scientist at Indiana University Network Science Institute

### CADRE Administrative/Outreach Team



Lourdes Gonzalez

Administrative Coordinator at Indiana University Network Science Institute

Stephanie Hernandez McGavin

Outreach Coordinator at Indiana University Network Science Institute

### Our team!



Structure & general accessibility.

Made all names <h5>. Contrast ratio: 14.91:1 (#212529 against #F4FBFF), WCAG AAA 2.1 compliant.

Since there are many names on this page, they are not all marked individually.



#### About CADRE

Getting Started  
Available Datasets  
The Team

#### Work with Us

RCSC Program  
CADRE Fellowship

#### News & Events

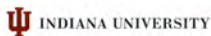
News  
Events  
Blog

#### Contact Us

#### Resources

Documentation  
CADRE Data Access  
Policy  
CADRE Outreach  
Software Release  
Notes

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The following pages are not included in this report because they does not involve any major page-specific accessibility change and/or update.

*Work With Us* (<https://cadre.iu.edu/work-with-us>)

# CADRE WEBSITE

## Work With Us > RCSC Program

<https://cadre.iu.edu/work-with-us/rcsc-program>



[Home](#) > [Work with Us](#) > [RCSC Program](#)

We have received a lot of interest in this program and have recently taken on [four new fellowship teams](#). While we want to support as many RCSC research projects as possible, we have put a pause on accepting new fellows until we have the capacity to provide intensive support for new teams. You are welcome to [submit a proposal](#) to be considered at a future date, and you can [contact us](#) if you have questions. You are also welcome to access CADRE's Microsoft Academic Graph dataset during our alpha phase. [Learn more](#).

In response to the [White House's call to action](#) for the scientific community to help answer COVID-19 questions with the COVID-19 Open Research Dataset (CORD-19) of scholarly literature, the CADRE project has opened a special fellowship program for researchers who are working on coronavirus-related research.

These researchers can take advantage of a special tier of service through CADRE's new Research Cohort for the Study of Coronaviruses Program (RCSC).

As an RCSC researcher, you can:

- Query across the [COVID-19 Open Research Dataset \(CORD-19\)](#) of scholarly literature in its raw format and parsed into a relational database, which will be maintained and updated weekly
- Additionally query across CADRE's Web of Science and Microsoft Academic Graph datasets
- Use CADRE's cloud-computing resources; GUI query-builder; and Jupyter Notebook coding environment
- Receive intensive technical support for your work
- Present your research in the future as part of our [fellows webinar series](#)

All of this can be done in [CADRE's cloud-based platform](#).

### Additional details

Applicants can form research teams consisting of graduate students, staff, and faculty from any U.S. or non-U.S. university—and teams can span any discipline and institution. You may also submit a research proposal without a team.

If you have any questions, you can [contact us here](#).

### External resources

The CADRE Project also wants to highlight important resources researchers can take advantage of during this time. Please [contact us](#) with resources you are aware of so we can add them to the list.

- A list of content providers that have opened access to paid academic resources in response to COVID-19: [Click here](#)
- C3.ai COVID-19 Data Lake is a unified, federated, open data image of critical COVID-19 data available at no cost to researchers, beginning April 13: [Click here](#)

### Current RCSC Researchers

#### 1. Science maps of research referenced in COVID-19 articles from the Indiana University Network Science Institute and the University of São Paulo

- Filipi Nascimento Silva, research scientist, Indiana University Network Science Institute
- Diego Raphael Amancio, postdoctoral fellow, Department of Computer Science, University of São Paulo

These researchers plan to address the recent flood of COVID-19 studies into preprint repositories. The sudden influx makes it difficult for researchers to stay on top of research that is relevant to their particular field using metrics or citations. The research team proposes a network-driven study that summarizes the fields related to recent COVID-19 literature. They will accomplish this by building citation networks among the most recent studies and applying community detection and keyword extraction to understand how the literature is organized. The researchers say that automated methods for summarizing COVID-19 research, as well as interactive visualizations, will aid other researchers in finding the most relevant and recent research in their field. The team will use CADRE's unified environment for access to scholarly datasets to accelerate their research.

#### 2. Creating a map of COVID-19 research using neural embeddings: A retrospective approach from Indiana University Bloomington

- Sadamori Kojaku, postdoctoral fellow, Luddy School of Informatics, Computing, and Engineering, Indiana University Bloomington

This project will create a map of papers on COVID-19 that will be compared with maps for similar viruses, such as SARS and influenza, to better understand unexplored and concentration areas in the research. Kojaku will employ neural embedding methods, used to project research papers onto a low dimensional space using citations and semantic information, and then compare the density of papers on COVID-19 with other diseases. Kojaku says this research will both address unexplored areas that may deserve more attention and allow researchers to easily explore research related to COVID-19. Kojaku is part of the Science Genome project, which is a close CADRE collaborator, and says he will use CADRE to access the comprehensive, continuously updated CORD-19 dataset and related research, as well as to receive support from CADRE's technical team and access to its computing resources.

#### 3. Tracking and Recognizing Patterns of Communication, Search, and International Collaboration in COVID-19 Research from Ohio State University, University of Hawaii at Manoa, and University of Technology Sydney

1 Structure & general accessibility.

See other 1 in this page.

Made section titles <h4> instead of <h5> to optimize the overall page hierarchy.

### Additional details

Applicants can form research teams consisting of any discipline and institution. You may also submit

If you have any questions, you can [contact us](#).

### External resources

The CADRE Project also wants to highlight impo

- [A list of content providers](#) that have opened
- [C3.ai COVID-19 Data Lake](#) is a unified, federated, open data image of critical COVID-19 data available at no cost to researchers, beginning April 13.

### Current RCSC Researchers



- Caroline Wagner, associate professor and Milton & Roslyn Wolf Chair in International Affairs, John Glenn College of Public Affairs, Ohio State University
- Xiaojing Cai, visiting fellow, John Glenn College of Public Affairs, Ohio State University
- Caroline V. Fry, assistant professor, Shidler College of Business, University of Hawaii at Manoa
- Yi Zhang, lecturer, Centre for Artificial Intelligence, Faculty of Engineering and Information Technology, University of Technology Sydney, Australia

This research team plans to study the international collaborations that are forming to perform COVID-19 research. The researchers say the combination of an intense research focus and a demand for quick results provides a rare opportunity for social scientists who study collaboration, teaming, and science dynamics. The team added that the abundant informal communications and knowledge sharing among scientists to address COVID-19 is rare. All of these circumstances have created an opportunity for the researchers to study team formations in real-time with CADRE. They plan to take advantage of CADRE's datasets and technical team for their research. Two team members (Wagner and Cai) are also currently using CADRE for another [CADRE Fellowship project](#).

#### 4. Study of Pandemic Publishing: How Scholarly Literature is Affected by COVID-19 Pandemic from the University of Michigan

- Yulia Sevryugina, chemistry librarian, Shapiro Science Library, University of Michigan, Ann Arbor
- Andrew Dicks, undergraduate student assistant, University of Michigan, Ann Arbor

Yulia Sevryugina's project will address the quality of recently published COVID-19 publications. Sevryugina says COVID-19 related research is being performed and published hastily. She adds that turnaround times for medical journal publications have decreased by almost 50 percent. Speedy research and condensed publication timelines contribute to a lack of scientific rigor and increase the likelihood of corrections and retractions, leading to the spread of false information in trusted journals. Sevryugina will study the quality of COVID-19 related scholarly works by using CADRE's datasets to identify signs of incoherency, irreproducibility, and haste. That includes analyzing COVID-19 published literature for incoherent writing, stylistic errors, plagiarism, speculative language, unreproducible experiments, and far-fetched conclusions based on poor quality data. She will also examine retracted and corrected manuscripts and explore their citation maps to understand how errors propagate through scholarly literature. Sevryugina hopes her research will help others find the balance between expediting publication timelines and maintaining research quality.

2 Structure & general accessibility.

See other 2 in the previous page.

Made titles of researchers <h5> with the additional use of <strong> over names of the researchers (institutional information of each researcher is regular <h5>).

Additionally, dividers are added between each research.



#### About CADRE

Getting Started  
Available Datasets  
The Team

#### Work with Us

RCSC Program  
CADRE Fellowship

#### News & Events

News  
Events  
Blog

#### Contact Us

#### Resources

Documentation  
CADRE Data Access  
Policy  
CADRE Outreach



#### Study of Pandemic Publishing: How Scholarly Literature is Affected by COVID-19 Pandemic from the University of Michigan

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# CADRE WEBSITE

## Work With Us > CADRE Fellowship

<https://cadre.iu.edu/work-with-us/cadre-fellowship>

The screenshot shows the CADRE Fellowship website. At the top is the Indiana University logo and navigation menu. A large banner reads 'CADRE Fellowship'. Below is a breadcrumb trail: 'Home > Work with Us > CADRE Fellowship'. The main content area has a text block stating the fellowship is closed and a 'Work with Us' button. Below is a section titled 'Our fellows' with a list of four fellowship teams. Each team entry includes a title, a list of members, and a brief description of their research. Red callout boxes with numbers 1, 2, and 3 point to specific elements: 1 points to the 'Work with Us' button, 2 points to the 'Our fellows' section title, and 3 points to the first team's title.

Home > Work with Us > CADRE Fellowship

Currently, our fellowship program is closed and we will not be taking on any new fellows in the coming months. Instead, we invite you to test CADRE, which is in alpha. Learn how to access the platform [here](#).

We have an exciting upcoming line up of webinars in our fellows webinars series, where you can learn more about each of our fellows' research. You can see who's presenting next by visiting our [events page](#) -- and be the first to know when fellows will present by following us on Twitter at [@CADRE\\_Project](#) and [subscribing](#) to our newsletter.

Our fellows

Our eight fellowship teams span across disciplines and offer [compelling research](#) that incorporates big data and bibliometrics. These fellows traveled with the CADRE team to the 2019 [International Conference on Scientometrics and Informetrics](#) in Rome and will present their work in webinars in 2020.

Our fellowship teams include:

1. Utilizing Data Citation for Aggregating, Contextualizing, and Engaging with Research Data in STEM Education Research from Purdue University Researchers:
  - Michael Witt, associate professor of library science, Purdue Libraries and School of Information Studies, Purdue University
  - Loran Carleton Parker, associate director & senior evaluation and research associate, Evaluation Learning Research Center, Purdue University
  - Ann Bessenbacher, research associate and data scientist, STEMEd HUB, Purdue UniversityResearchers will characterize citation of data from the literature in the field of STEM education research. A sample of relevant publication venues in the field will be identified from WoS and MAG. Digital Object Identifiers (DOIs) of datasets registered with DataCite will be used to query and associate datasets with publications. The team will assess rates of citation for datasets that are cited using DataCite DOIs for each publication venue and analyze a sample of data citations and publications to determine suitability for providing an initial context to help a researcher who is unfamiliar with the data determine whether to use the dataset.
2. Understanding citation impact of scientific publications through ego-centered citation networks from Peking University, Nanjing University, and University of Texas at Austin
  - Yi Bu, Assistant Professor at the Department of Information Management, Peking University, China
  - Chao Min, research assistant professor in information management, Nanjing University in China
  - Ying Ding, Bill & Lewis Suit Professor at School of Information, University of Texas at AustinThe research team seeks to find the "deeper" and "broader" impact of network-based citation measurements in the scientific community. This project will determine the citation impact of scientific publications using an ego-centered citation network, which contains the citing relationships between a publication and its citing publications, as well as the relationships within its citing publications. Researchers will use the entirety of the WoS and MAG data to establish empirical evidence in this project.
3. MCAP: Mapping Collaborations and Partnerships in SDG Research from Michigan State University
  - Jane Payumo, academic specialist and research and data evaluation manager, MSU AgBioResearch, Michigan State University
  - Devin Higgins, digital library programmer, MSU Libraries, Michigan State University
  - Scout Calvert, data librarian, MSU Libraries, Michigan State University
  - Guangming He, information management analyst, MSU Innovation Center, Michigan State University
  - Anusha Manjunatha, data research analyst, MSU AgBioResearch, Michigan State UniversityThis project will build on the WoS report "Navigating the Structure of Research on Sustainable Development Goals (SDG)," as the researchers search for patterns of global collaboration and support the United Nations' SDG call for action. Researchers will design a prototype to analyze and visualize the input-output of partnerships over time in SDG-supportive research. They also plan to create a scoring measure or partnership index that defines and conducts partnership analytics for SDGs by using data sourced from WoS and MAG.
4. The global network of air links and scientific collaboration – a quasi-experimental analysis from Indiana University Bloomington and University of Warsaw
  - Katy Börner, Victor H. Yngve distinguished professor of engineering & information science, Indiana University Bloomington
  - Adam Ploszaj, assistant professor at the Centre for European Regional and Local Studies, University of Warsaw
  - Lisel Record, associate director, Cyberinfrastructure for Network Science Center
  - Bruce Herr II, senior system architect and project manager, Cyberinfrastructure for Network Science CenterResearchers plan to determine the impact of the introduction and availability of long-distance flights on international scientific collaboration. The team will measure collaboration through co-authorship and co-affiliation. They will also geocode publication affiliations from WoS and MAG from 1998 through 2017. This quasi-experimental research will apply state-of-the-art causal modeling techniques and explore how data-driven causality can enhance science of science policy relevance.

1 Structure.  
Removed this secondary navigation since links to these three pages can be found in the footer.

2 Structure & general accessibility.  
Made the section title <h4> instead of <h5> as an optimization to the overall page hierarchy.

3 Structure & general accessibility.  
Made titles of fellowship teams <h5>, and removed numeric orders.  
See also other 3 on the next page.

team will measure collaboration through co-authorship and co-attention. They will also geocode publication attributions from WoS and MAG from 1998 through 2017. This quasi-experimental research will apply state-of-the-art causal modeling techniques and explore how data-driven causality can enhance science of science policy relevance.

### 5. Measuring and Modeling the Dynamics of Science Using the CADRE Platform from University of Minnesota, New York University, Boston University, University of Pennsylvania, University of Arizona

- Russell Funk, assistant professor of strategic management & entrepreneurship, University of Minnesota
- Michael Park, Ph.D. student in strategic management and entrepreneurship, University of Minnesota
- Thomas Gebhart, Ph.D. student in computer science and engineering, University of Minnesota
- Britta Glennon, assistant professor at Wharton School, University of Pennsylvania
- Julia Lane, professor at Wagner Graduate School of Public Service, New York University
- Raviv Murciano-Goroff, assistant professor at Questrom School of Business, Boston University
- Matthew Ross, research assistant professor at Wagner Graduate School of Public Service, New York University
- Erin Leahey, professor and director of sociology, University of Arizona
- Jina Lee, Ph.D. student in sociology, University of Arizona

This research team wants to better characterize scientific influence of papers, typically measured by how many times papers are cited, by distinguishing between papers that destabilize existing knowledge with novel concepts and papers that consolidate existing knowledge. In a separate but closely related aim, the researchers also plan to create a novel unsupervised machine learning technique for author-name disambiguation by pulling abstract, title, and citation data from WoS and MAG. For both aims, the CADRE platform will provide essential infrastructure in terms of large-scale data storage and high performance computational resources.

### 6. Comparative analysis of legacy and emerging journals in mathematical biology from University of Michigan and University of Michigan Medical School

- Marisa Conte, assistant director of research & informatics, Taubman Health Sciences Library, University of Michigan
- Samuel Hansen, mathematics and statistics librarian, Shapiro Science Library, University of Michigan
- Scott Martin, biological sciences librarian, Shapiro Science Library, University of Michigan
- Santiago Schnell, John A. Jacquez collegiate professor of physiology, University of Michigan Medical School

Researchers will perform a comparative analysis on papers published in four mathematical biology legacy journals and on newer journals with different publication models and disciplinary scope. The team will use the CADRE datasets to develop methodologies for comparative bibliometrics and content analyses; provide insight into publication trends in theoretical and applied domains; give authors new factors to consider when trying to publish; and help editors in similar disciplines use informatics to distinguish their journals.

### 7. Systematic over-time study of the similarities and differences in research across mathematics and the sciences from University of Michigan

- Samuel Hansen, mathematics and statistics librarian, Shapiro Science Library, University of Michigan

Samuel's project uses reference and citation aging, bibliographic coupling, and network breadth and depth to find similarities and differences between research fields in mathematics and the sciences. Specifically, they will find how information ages differently across disciplines, generate data about changes in the development of these research fields, and study how actively collaborative the disciplines are. Samuel will use WoS data from 1900 to 2017 to perform these analyses, which have typically only been done on a smaller scale in a single discipline.

### 8. Assessing the rise of China as a scientific nation from The Ohio State University

- Caroline Wagner, associate professor, Milton & Roslyn Wolf Chair in International Affairs, John Glenn College of Public Affairs, The Ohio State University
- Xiaojing Cai, visiting fellow, John Glenn College of Public Affairs, The Ohio State University

This project is part of a series of studies in which researchers are assessing the rise of China in scholarship. In particular, the project aims to provide a comprehensive assessment of the nature of China's publications in science and engineering over the past 20 years. One part of the study will be to examine the published scholarship from China and by Chinese nationals abroad. This will include case studies of specific fields, as well as macro overviews of the output, its impact, and the collaborations involved in China's rise. The team will use Web of Science and Microsoft Academic Graph to perform this research.



#### About CADRE

[Getting Started](#)  
[Available Datasets](#)  
[The Team](#)

#### Work with Us

[RCSC Program](#)  
[CADRE Fellowship](#)

#### News & Events

[News](#)  
[Events](#)  
[Blog](#)

#### Contact Us

#### Resources

[Documentation](#)  
[CADRE Data Access](#)  
[Policy](#)  
[CADRE Outreach](#)  
[Software Release](#)  
[Notes](#)



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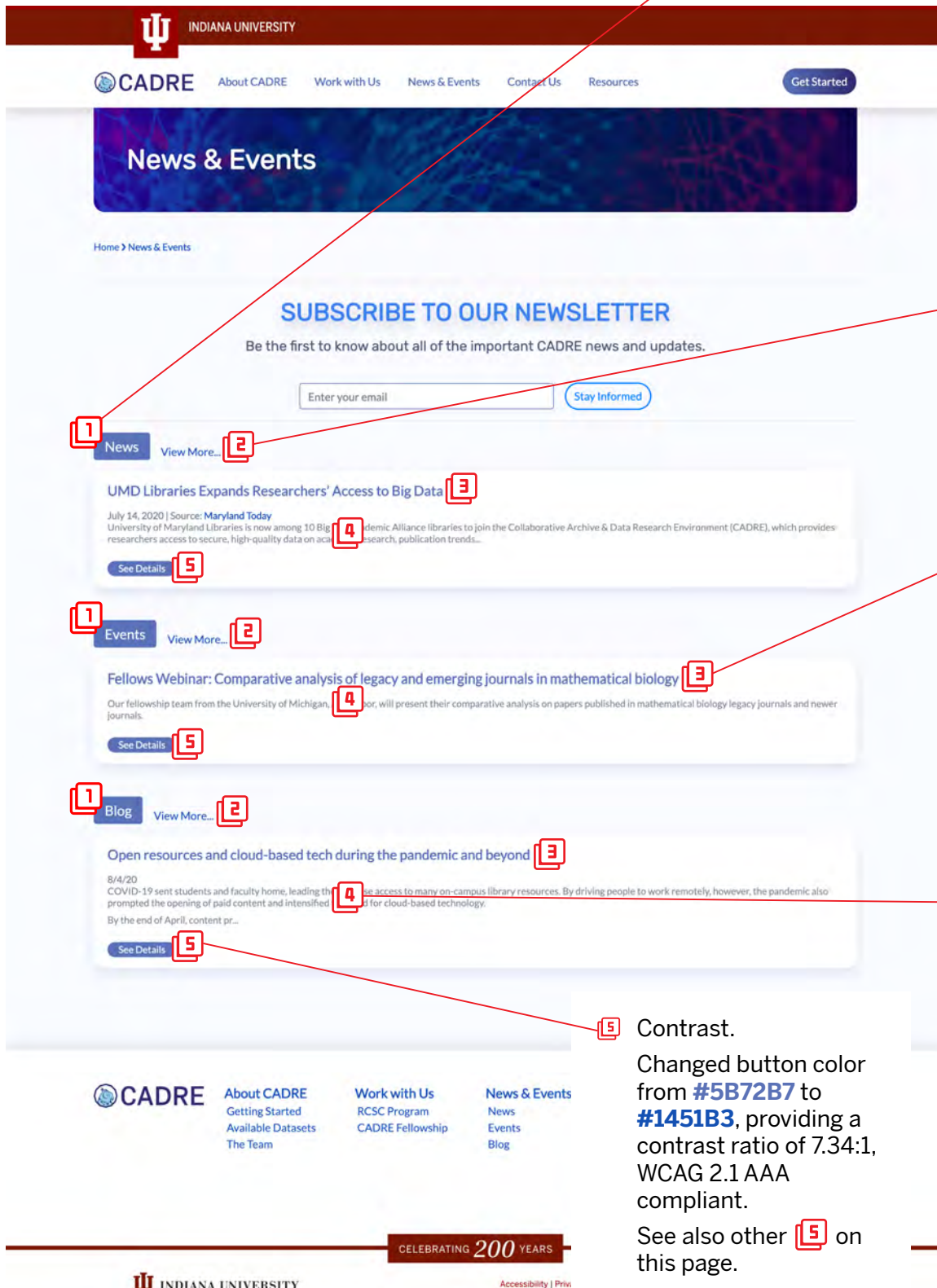
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# CADRE WEBSITE

## News & Events

<https://cadre.iu.edu/news-and-events>



General accessibility. Previously, these section titles were clickable and looked like buttons. They are now all plain-text `<h3>` in **#4D5575**, contrast ratio 7.07:1, WCAG 2.1 AAA compliant. See also other **1** in this page.

Contrast. Updated text link color to **#1451B3**, contrast ratio 7.07:1, WCAG 2.1 AAA compliant. See also other **2** in this page.

Contrast. Changed title text color from **#677FBD** to **#5B72B7**, providing a contrast ratio of 4.63:1, WCAG 2.1 AA compliant. See also other **3** in this page.

Contrast. Changed text color from **#838896** to **#525860**, providing a contrast ratio of 7.18:1, WCAG 2.1 AAA compliant. See also other **4** in this page.

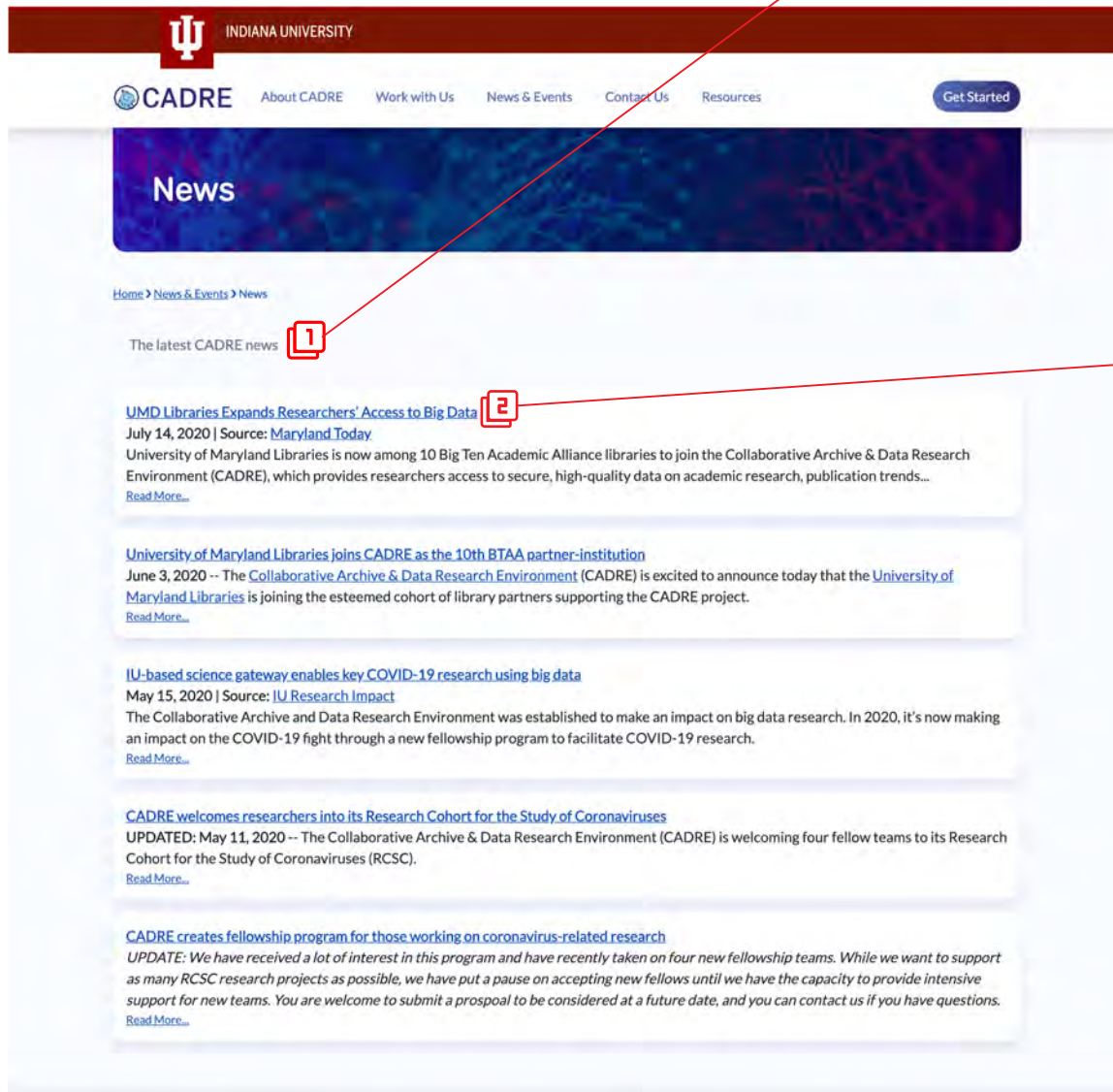
Contrast. Changed button color from **#5B72B7** to **#1451B3**, providing a contrast ratio of 7.34:1, WCAG 2.1 AAA compliant. See also other **5** on this page.

# CADRE WEBSITE

## News & Events > News

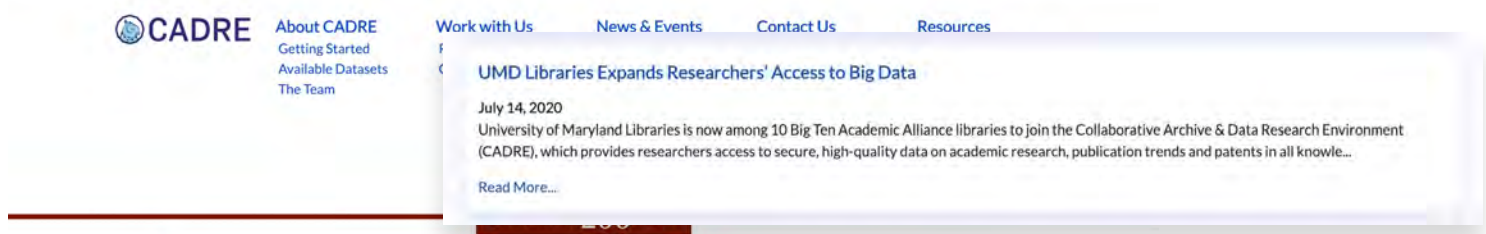
<https://cadre.iu.edu/news-and-events/news>

1 General accessibility and contrast. Made this text an `<h4>`, meaning larger font size and more Assistive Technology friendly; changed color from `#646C81` to `#212529`, providing stronger contrast.



Home > News & Events > News  
The latest CADRE news

2 Readability; visual aesthetics; consistency. Enlarged font size of all card titles (i.e. news titles) from 1em to 1.25em. Normalized the format of data and source for each news entry. Removed underline for all titles since text color difference is already sufficient in identifying titles as links. Added space between the title, the preview paragraph, and the Read More link.

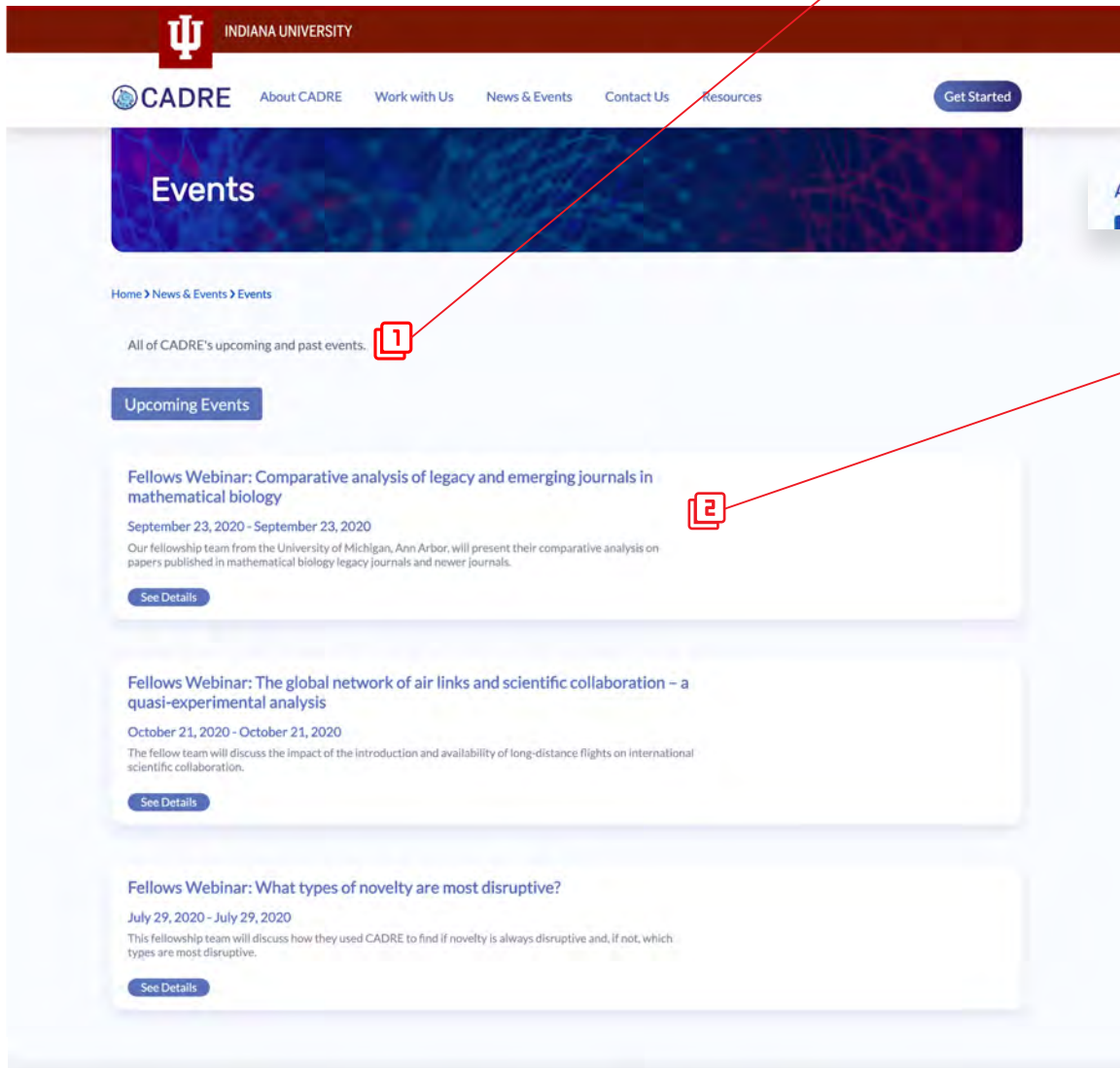


# CADRE WEBSITE

## News & Events > Events

<https://cadre.iu.edu/news-and-events/events>

1 General accessibility and contrast. Made this text an <h4>, meaning larger font size and more Assistive Technology friendly; changed color from #646C81 to #1451B3, providing stronger contrast.



1

2

2 General accessibility. For all event titles, changed text color to #1451B3 for better contrast. For all Event Dates, enlarged font size to 1.1em, and changed text color to #1451B3 for better contrast. For all Event Preview text, changed text color to #212529 for better contrast. Changed See Details button background color to #1451B3.

CADRE About CADRE Getting Started Available Datasets The Team

Fellows Webinar: Comparative analysis of legacy and emerging journals in mathematical biology

September 23, 2020 - September 23, 2020

Our fellowship team from the University of Michigan, Ann Arbor, will present their comparative analysis on papers published in mathematical biology legacy journals and newer journals.

See Details

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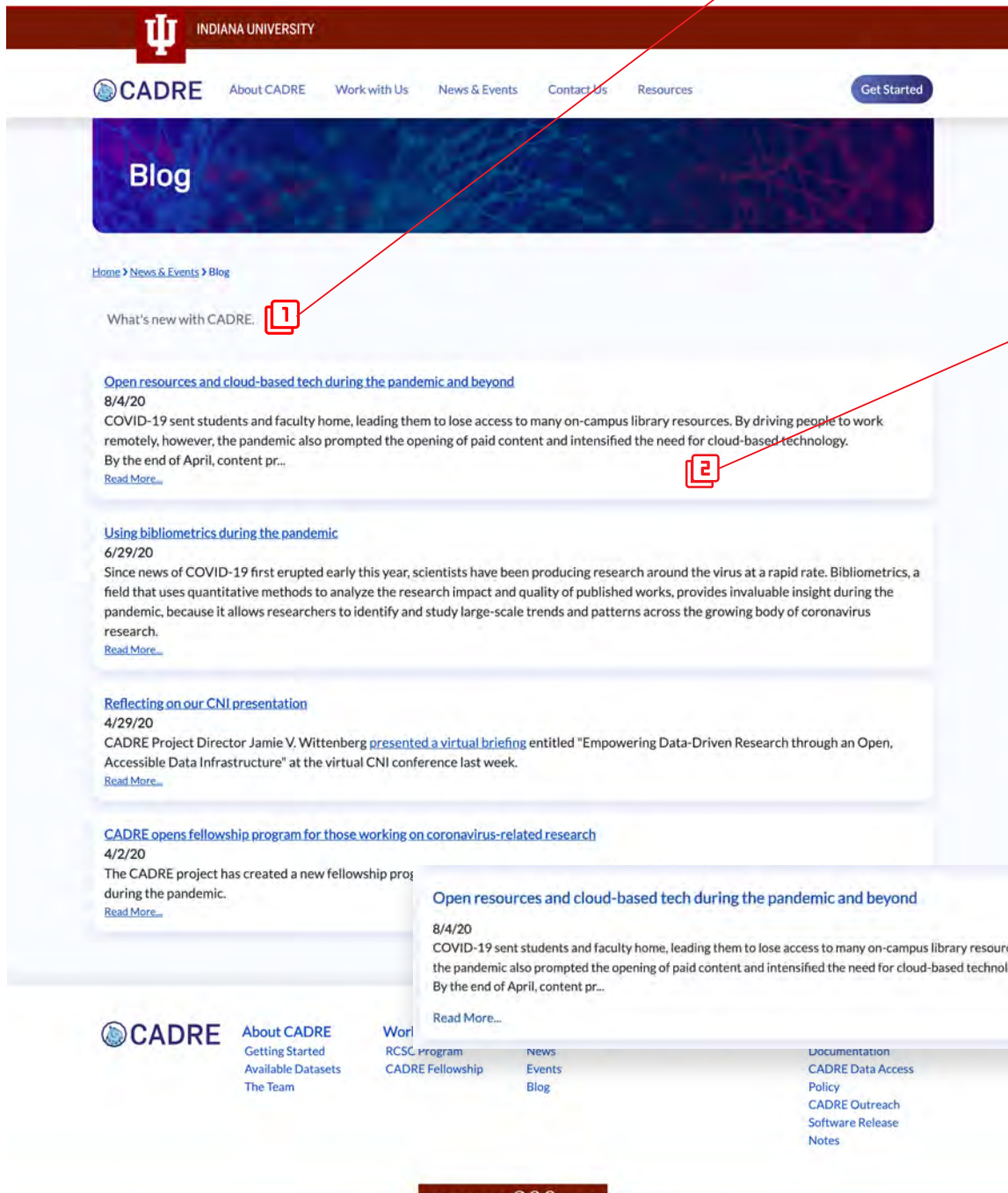


# CADRE WEBSITE

## News & Events > Blog

<https://cadre.iu.edu/news-and-events/blog>

1 General accessibility and contrast. Made this text an <h4>, meaning larger font size and more Assistive Technology friendly; changed color from #646C81 to #212529, providing stronger contrast.

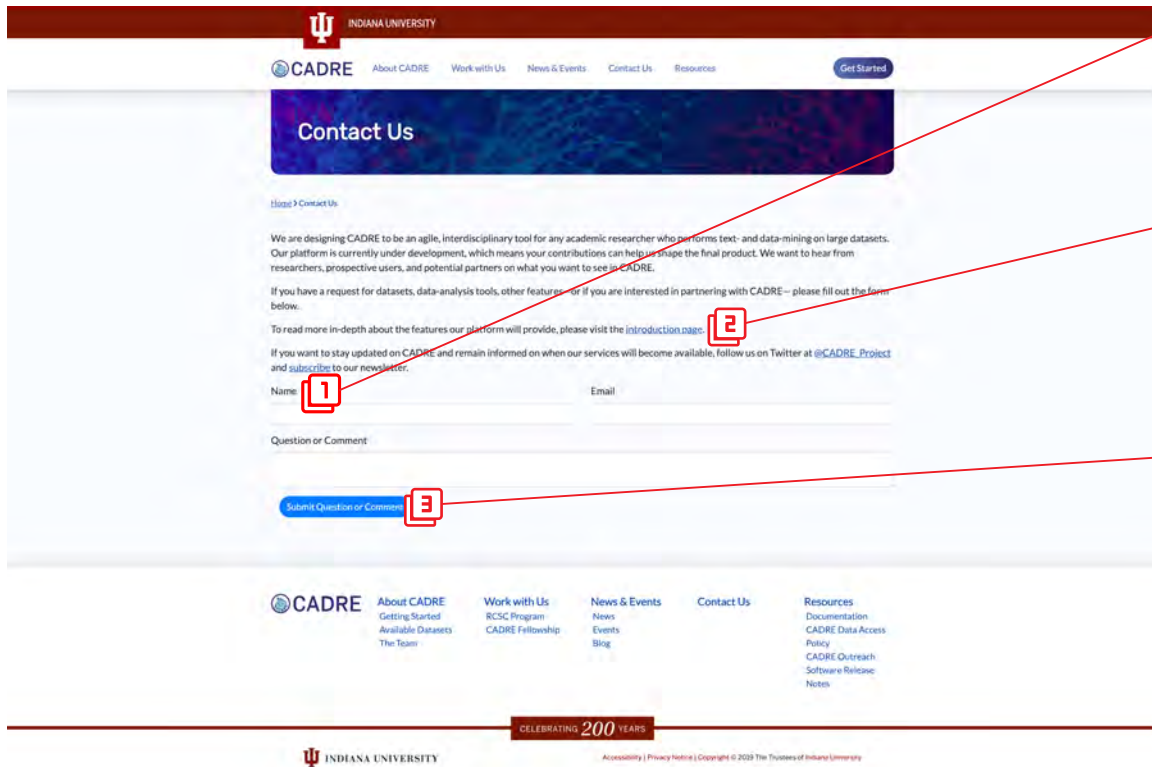


2 Readability; visual aesthetics; consistency. For all event titles, changed text color to #1451B3 for better contrast; removed underline; enlarged font size to 1.25em. Added space between blog post title and date. For all Read More... text links, changed text color to #1451B3.

# CADRE WEBSITE

## Contact Us

<https://cadre.iu.edu/contact-us>



1 Semantics.  
Added correct ARIA labels for the feedback form.

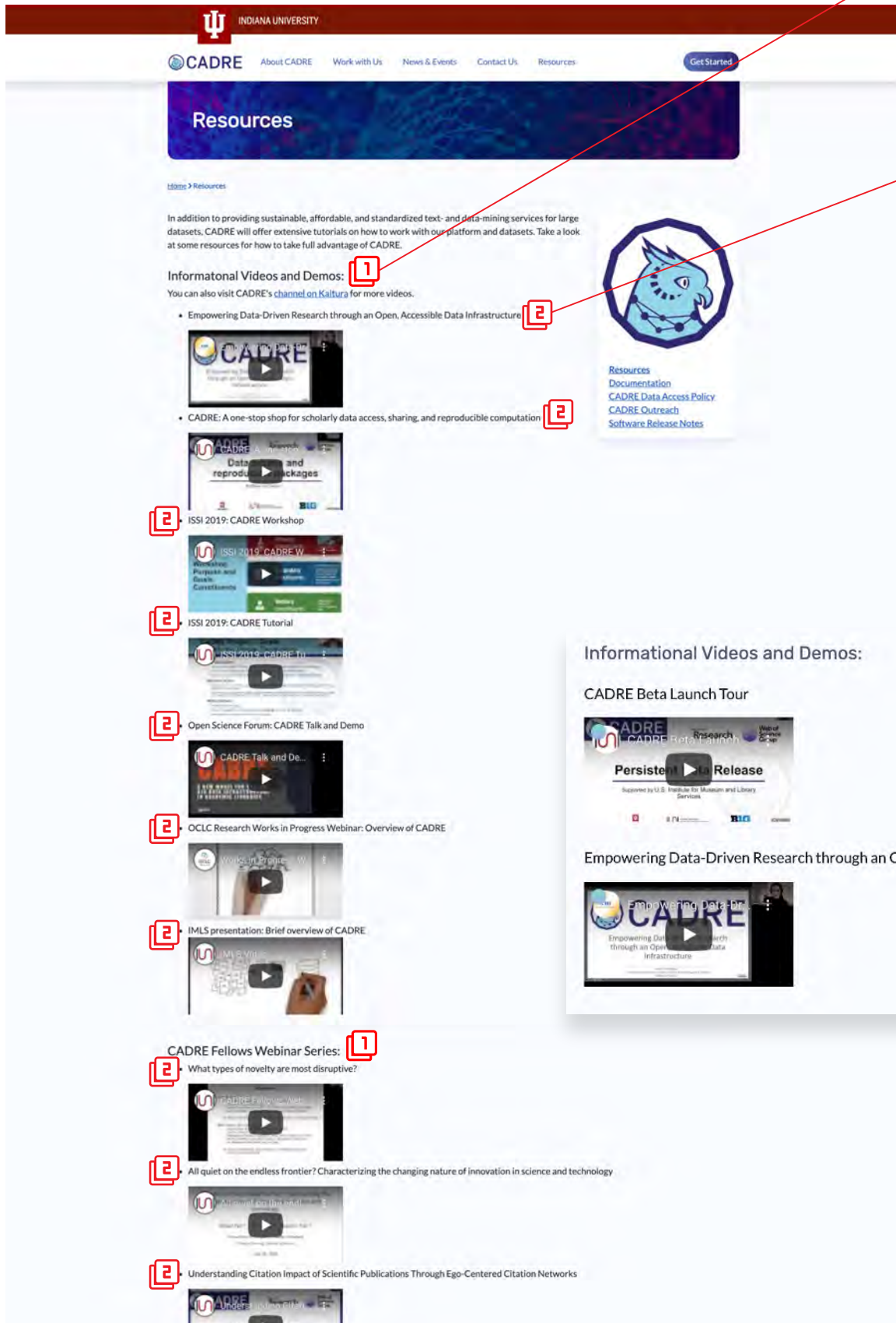
2 Contrast.  
For all text links, changed text color to #1451B3 for better contrast.

3 UX copywriting.  
Changed button label to **Submit** to make label shorter, clearer, and cognitively easier.

# CADRE WEBSITE

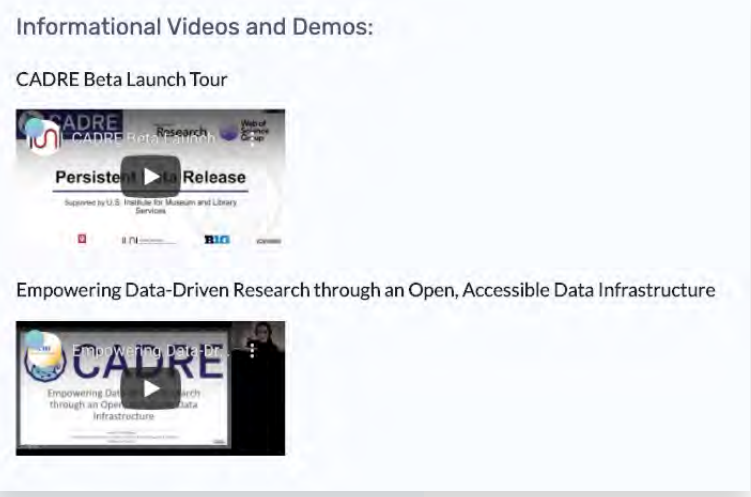
## Resources

<https://cadre.iu.edu/resources>



1 Structure.  
Made section titles <h3> instead of <h4>.  
See also other 1 on this page.

2 Structure; readability; visual aesthetics.  
Made all video titles <h4> instead of unordered list items.  
Additionally, added top and bottom margin to all video titles so the page looks more spacially arranged.  
Applies to all items marked 2 on this page.







### Data Access/General User Application: 1

To request data access, please first read the CADRE Data Access Policy. You can then complete the CADRE General Data User Application. Upon approval, data enclave access is provided by IUNI Data Manager Matthew Hutchinson.

- [CADRE Data Access Policy](#)
- [CADRE General Data User Application Form](#)

### User Story Collection Form 1

We rely heavily on user stories and use cases to create a platform that is helpful to every type of academic researcher. To tell us what you want to see in our platform, share your user story. Please note, this form takes you to the IU Network Science Institute website.

- [User Story Form](#)



**About CADRE**  
[Getting Started](#)  
[Available Datasets](#)  
[The Team](#)

**Work with Us**  
[RCSC Program](#)  
[CADRE Fellowship](#)

**News & Events**  
[News](#)  
[Events](#)  
[Blog](#)

**Contact Us**

**Resources**  
[Documentation](#)  
[CADRE Data Access Policy](#)  
[CADRE Outreach](#)  
[Software Release Notes](#)

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# CADRE WEBSITE

## Resources > Documentation

<https://cadre.iu.edu/resources/documentation>

INDIANA UNIVERSITY

CADRE About CADRE Work with Us News & Events Contact Us Resources [Get Started](#)

## Documentation

[Home](#) > [Resources](#) > [Documentation](#)

Below is documentation that will help users begin to work with each of our datasets.

### Web of Science

If you'd like to start investigating the WoS dataset, check out the following:

- [WoS Entity Relationship Diagram](#)
- [Web of Knowledge Schemas](#)
- [WoS Data Dictionary](#)
- [Web of Knowledge User Guide](#)

### Microsoft Academic Graph

MAG documentation, including a repository of sample code, to help you begin your journey with MAG:

- [MAG Entity Relationship Diagram](#)
- [GitHub: Academic Knowledge Analytics Visualization](#)

### U.S. Patent and Trademark Office

USPTO documentation is available here:

- [USPTO Entity Relationship Diagram](#)

For information about data access, please visit the [Resources page](#).

**Web of Science**

If you'd like to start investigating the WoS dataset, check out the following:

- [WoS Entity Relationship Diagram](#)
- [Web of Knowledge Schemas](#)
- [WoS Data Dictionary](#)
- [Web of Knowledge User Guide](#)

**Microsoft Academic Graph**

MAG documentation, including a repository of sample code, to help you begin

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1 Structure.  
Made section titles <h4> instead of <h5>; added space below section titles.  
See also other 1 on this page.

# CADRE WEBSITE

## Resources > CADRE Data Access Policy

<https://cadre.iu.edu/resources/data-access-policy>

The screenshot shows the CADRE Data Access Policy page. The header includes the Indiana University logo and navigation links: About CADRE, Work with Us, News & Events, Contact Us, Resources, and a Get Started button. The main heading is 'CADRE Data Access Policy'. Below this, there is a breadcrumb trail: Home > Resources > CADRE Data Access Policy. A link to download a PDF version of the policy is provided. The 'Scope' section states that the policy applies to all agents of the Universities participating in the CADRE project who wish to access the WoS and/or MAG datasets stored on IUNI's data enclave. A 'Policy Statement' section follows, detailing the agreement with Clarivate Analytics and Microsoft Research to receive the 'Web of Science' (WoS) and 'Microsoft Academic Graph' (MAG) datasets. It lists three distinct modes of access: Raw XML data (WoS) or TSV (MAG) via a relational PostgreSQL database, and a browser-based GUI. The 'Reason for Policy' section explains that IUNI wants to make the WoS and MAG data accessible to eligible individuals while adhering to the terms and conditions of the agreement with Clarivate Analytics and Microsoft Research. It notes that the WoS data set is proprietary and its protection is a key priority, and that the MAG data is openly available and licensed ODC-BY. The 'Procedures' section outlines five steps for accessing the data, from eligibility to citation requirements. The 'Definitions' section defines IUNI, Eligible Individual, and Web of Science or WoS. A 'Resources' sidebar on the right lists: Documentation, CADRE Data Access Policy, CADRE Outreach, and Software Release Notes.

1 Structure.  
Made section titles <h3> instead of <h4>.  
See also other 1 on this page and the next page.

Download a PDF version of this policy [here](#).

### Scope

All agents of the Universities participating in the CADRE project who wish to access the WoS and/or MAG datasets stored on IUNI's data enclave.

### Policy Statement

- IUNI has entered into an agreement with Clarivate Analytics to receive the 'Microsoft Academic Graph' (MAG) from the end of the nineteenth century up to and including 2017. The MAG dataset includes over 200 million publications with the earliest dating from the early 19th century. IUNI is making this data accessible while simultaneously honoring agreements with Clarivate Analytics and Microsoft Research. To this end, the data will be stored on a discrete enclave on a dedicated within the Carbonate computing cluster. This document describes the rules users must follow in order to access the WoS and MAG datasets.
- The data is accessible via three distinct modes all of which are available on the enclave:
  - Raw XML data (WoS) or TSV (MAG) A relational PostgreSQL database created by parsing the raw XML and TSV data A browser based GUI running within the server

### Reason for Policy

IUNI wants to make the WoS and MAG data accessible to eligible individuals while adhering to the terms and conditions of the agreement with Clarivate Analytics and Microsoft Research.

2 Visual aesthetics; readability.  
For all text links in the navigation box, removed text underlines.

The screenshot shows the 'Resources' sidebar with the following links: Documentation, CADRE Data Access Policy, Software Release Notes, DOI, and SDG Research.



- **Eligible Individual:** An individual who is an employee or student of an institution participating in the CADRE project.
- **Web of Science or WoS:** The dataset and all future updates that have been provided to IUNI by Clarivate Analytics.
- **Microsoft Academic Graph or MAG:** The dataset and all future updates that have been provided to IUNI by Microsoft Research.
- **Data Enclave or 'The enclave':** A dedicated data intensive node in the Karst network that stores the WoS and MAG dataset and is maintained by UITS on behalf of IUNI.
- **Data Manager:** An employee of IUNI who conducts day-to-day administration of the WoS and MAG dataset and supports researchers in accessing the data. The Data Manager serves as the single point of contact for all issues regarding the enclave and the WoS data (See <https://datamgmt.iu.edu/governance/structure.php> for more details).

## Sanctions

Indiana University will handle reports of misuse and abuse of information and information technology resources in accordance with existing policies and procedures issued by appropriate authorities. Depending on the individual and circumstances involved this could include the offices of Human Resources, Vice Provost or Vice Chancellor of Faculties (or campus equivalent), Dean of Students (or campus equivalent), Office of the General Counsel, and/or appropriate law enforcement agencies. See policy IT-02, Misuse and Abuse of Information Technology Resources for more detail.

Failure to comply with Indiana University information technology policies may result in sanctions relating to the individual's use of information technology resources (such as suspension or termination of access, or removal of online material); the individual's employment (up to and including immediate termination of employment in accordance with applicable university policy); the individual's studies within the university (such as student discipline in accordance with applicable university policy); civil or criminal liability; or any combination of these.

## Additional Contacts

Subject Contact

Web of Science: Matthew Hutchinson | (812) 855-1404 | [mahutch@iu.edu](mailto:mahutch@iu.edu)

Microsoft Academic Graph: Matthew Hutchinson | (812) 855-1404 | [mahutch@iu.edu](mailto:mahutch@iu.edu)

## Forms

If you are interested in accessing the data enclave, please complete the application form at the following address:

[http://iuni.iu.edu/resources/cadre/general\\_data-user](http://iuni.iu.edu/resources/cadre/general_data-user)

## History

This policy replaces the 'Web of Science - Data Access Policy'.



**About CADRE**  
Getting Started  
Available Datasets  
The Team

**Work with Us**  
RCSC Program  
CADRE Fellowship

**News & Events**  
News  
Events  
Blog

**Contact Us**

**Resources**  
Documentation  
CADRE Data Access  
Policy  
CADRE Outreach  
Software Release  
Notes

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The **CADRE Outreach** page is included in the **Resources** section (on the next page), but in the updated website, it has been moved to the News & Events section; new URL to the page is:

<https://cadre.iu.edu/news-and-events/outreach>

# CADRE WEBSITE

## Resources > CADRE Outreach

new URL: <https://cadre.iu.edu/news-and-events/outreach>

**1** UX Copywriting.  
Changed the copywriting to "A full bibliography of CADRE's outreach activities since the beginning of its grant." to make the page more understandable.

**2** Visual aesthetics; readability.  
Added 1em space between each listed items.

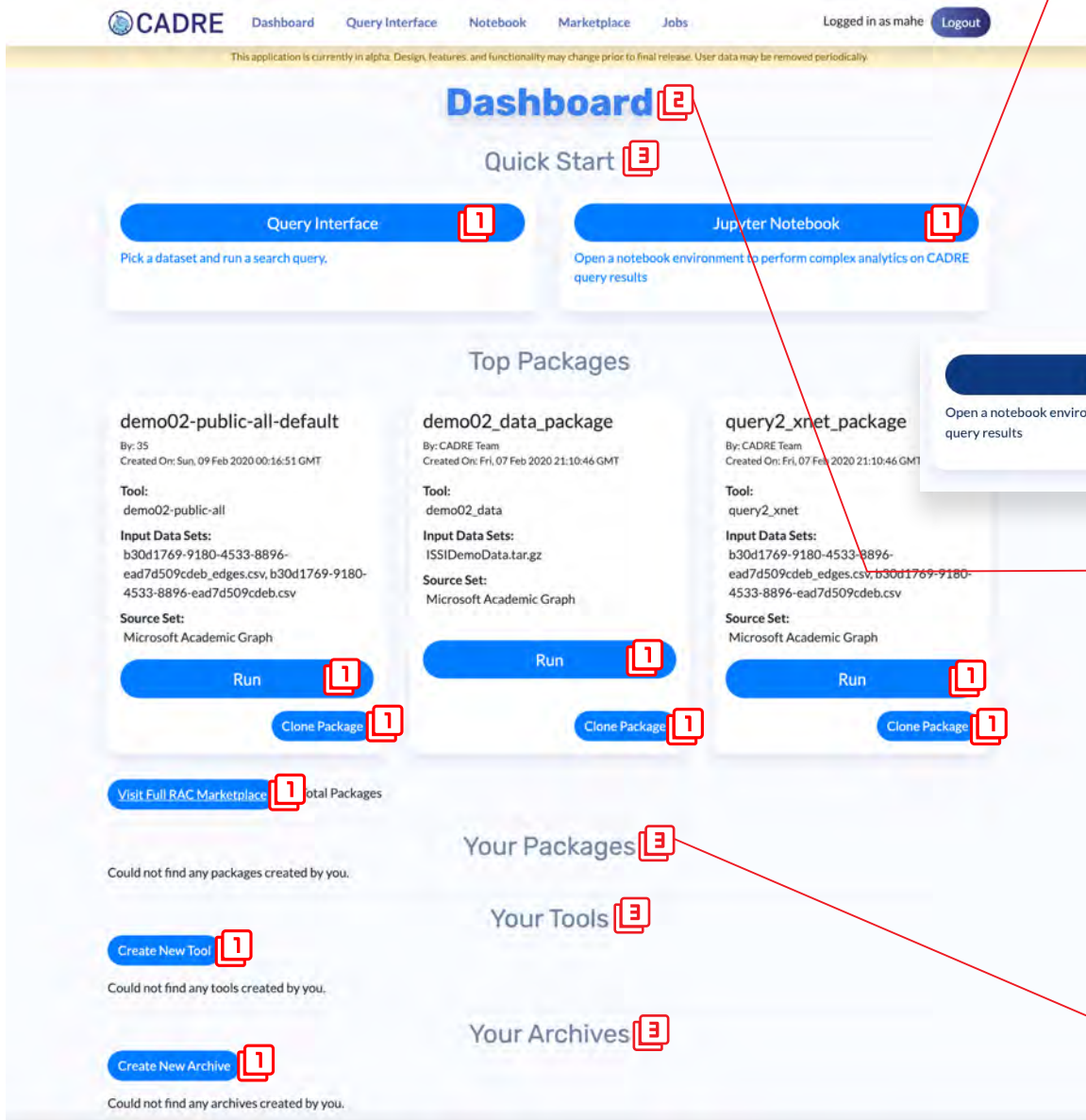
A full bibliography of CADRE's outreach activities since the beginning of its grant.

1. Mabry, PL., Pentchev, V., Van Rennes, R., Wilkinson, J., Wittenberg, J.V., and Yan, X. "Elevating Open Data: Building Open Environments for Data Stewardship in Research Libraries with CADRE." Accepted for presentation at the 15th International Open Repositories Conference, Stellenboscg, South Africa, May 31, 2021.
2. Bessenbacher, A., Carleton Parker, L., Witt, M., and Yan, X. "Utilizing Data Citation for Aggregating, Contextualizing, and Engaging with Research Data in STEM Education Research." CADRE Fellows Webinar Series. December 9, 2020. <https://cadre.iu.edu/news-and-events/events/fellows-webinar-utilizing-data-citation-for-aggregating-contextualizing-and-engaging-with-research-data-in-stem-education-research>.



# CADRE GATEWAY Dashboard

<https://cadre.iu.edu/gateway/>

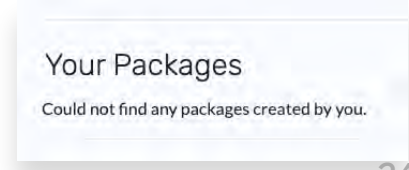


1 Contrast.  
Adjusted the button color universally from #017BFF to #1451B3, providing a 7.35:1 contrast ratio against the #FFFFFF card background and button label texts; WCAG 2.1 AAA compliant.  
Applies to all items marked with 1 on this page.

2 Visual aesthetics.  
For all <h2>s in Gateway, added spaces above and below the text, giving all page titles more space.

3 Visual aesthetics.  
For all <h3> in Gateway, changed text alignment to left-aligned, enlarged font size to 1.75em, made line height larger, added surrounding space.

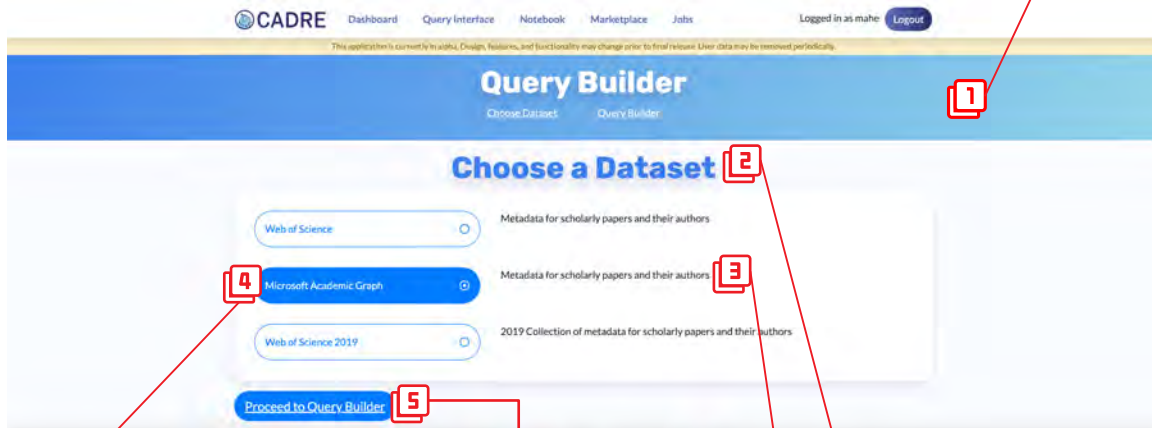
4 Contrast.  
Adjusted opacity of this button to 100% which means this button is fully visible. Additionally, the Gateway-universal button background color change also applies to this button.



# CADRE GATEWAY

## Query Builder > Choose Dataset

<https://cadre.iu.edu/gateway/query-builder/choose-data-set>

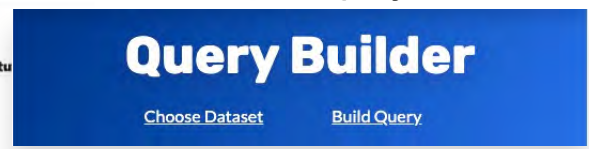
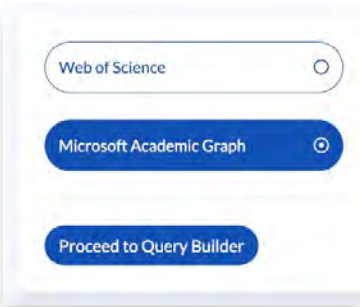


**1** Contrast.  
The lighter end of the background gradient provides poor contrast against the white page title. The gradient was changed from #3E81EA - #92D3E7 to #003385 - #2670E8; both ends of the new gradient provide contrast ratios greater than 4.90:1, WCAG 2.1 AAA compliant (for large text only).  
This change applies to all pages of the Query Builder.

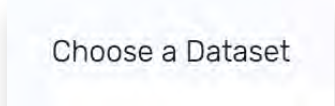
**4** Contrast.  
Universal button background color change also applies to these radio buttons.



**5** Structure; visual aesthetics.  
Moved this "Proceed to Query Builder" button into the box above, added a divider between the button, added space around the button, removed text underline, and aligned the button to the left of the radio buttons above. The reason for these changes is that the button belongs to the same functional group with controls inside the box.



**2** Visual aesthetics.  
Universal <h3> style change also applies to this.



**3** Visual aesthetics.  
Made this text horizontally aligned to radio buttons to their left.



# CADRE GATEWAY

## Query Builder > Build Query

<https://cadre.iu.edu/gateway/query-builder/build-query>

The screenshot shows the CADRE Gateway Query Builder interface. The top navigation bar includes 'CADRE', 'Dashboard', 'Query Interface', 'Notebook', 'Marketplace', and 'Jobs'. The user is logged in as 'mahe'. The main header is 'Query Builder' with sub-links 'Choose Dataset' and 'Query Builder'. The main content area is titled 'Query the Web of Science dataset' and contains several sections: 'Filters', 'Output Fields', 'Network Queries', and 'Job Name (Optional)'. The 'Filters' section has a search field and a '+ Add Additional Filter' button. The 'Output Fields' section has a 'Show Selected Only' button and several field selection buttons like 'wos\_id', 'year', and 'authors\_full\_name'. The 'Network Queries' section has a checkbox for 'Include First Degree Citation Network'. The 'Job Name (Optional)' section has a text input field and a 'Submit Query' button. A 'Get Preview' button is also present. A 'Deselect All' button is located in the 'Output Fields' section. A 'Submit Query' button is at the bottom of the main form. A 'Send Feedback' button is at the bottom right of the page.

**1** Contrast. See note **1** in the last page.

**2** Structure; Visual aesthetics; readability. Universal <h3> style change also applies to this.

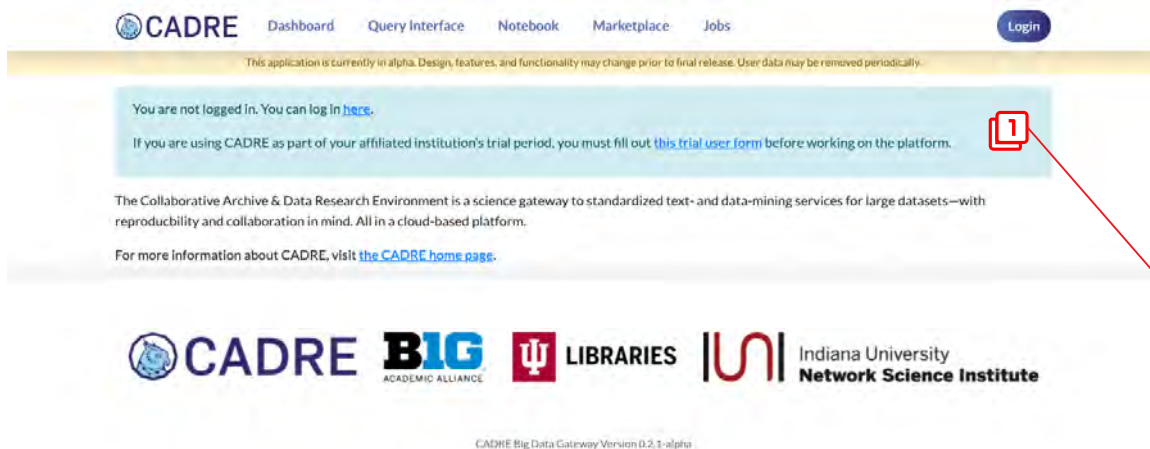
**3** The universal button background color also applies to controls marked with **3** as highlight/selected state color.



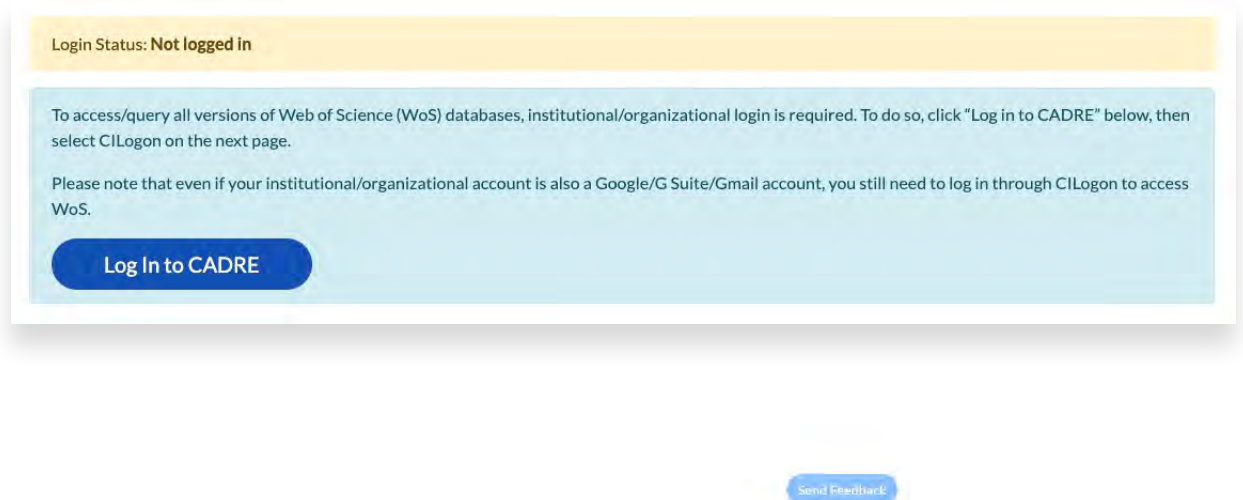
# CADRE GATEWAY

## Gateway > Not-Logged-In Page

<https://cadre.iu.edu/gateway/profile>



UX copywriting.  
Added information about choosing the correct option when logging in.



# CADRE GATEWAY

## Other Universal Changes (Gateway-only)

Other universal accessibility changes include:

Color of the focus indicator is changed to improve its contrast ratio.

Fixed controls/objects that are missing attributes.

Fixed controls, such as custom buttons, that are not programmatically associated with their group labels.