Proposal to the Senate Committee on Educational Policy for the Creation of a New Unit of Research or Public Service (includes Centers and Institutes)

TITLE OF PROPOSED UNIT

Cline Center for Advanced Social Research

CONTACT INFORMATION

Scott Althaus  
Merriam Professor of Political Science, Professor of Communication, and Director of the Cline Center for Democracy, University of Illinois at Urbana-Champaign  
(217) 265-7879  
salthaus@illinois.edu

PROPOSED STATUS

This is a petition for permanent status. The Cline Center is a unit of the College of Liberal Arts and Sciences (LAS) that has been operating since 2007 on temporary status as the Cline Center for Democracy (CCD). Starting in 2008, the Cline Center’s research began expanding beyond democracy to focus on combining computational text analytics methods with domain expertise from the social sciences and humanities. This broader scholarly emphasis is increasingly at odds with the name the Center has carried for nearly a decade. Consequently, this petition for permanent status entails a formal request to rename the unit as the Cline Center for Advanced Social Research (CCASR) while retaining all of the unit’s current activities.

In 2015 the College of Liberal Arts and Sciences formed an ad-hoc committee to review the Cline Center’s progress since inception and to assess whether permanent status should be pursued. This review strongly affirmed the Cline Center’s value to LAS, and the College has recommended that it pursue permanent status. This application is the result of the College’s endorsement. As detailed in this proposal, the Cline Center’s value to campus stems from its strong alignment with strategic goals set by the University of Illinois system, the Urbana-Champaign campus, and the College of LAS. This value is further enhanced by the stability and potential for future growth arising from the Cline Center’s diverse mix of funding sources, including a $5M founding endowment, recurring revenue from restricted funds dedicated to Cline Center use, private donations, public and private-sector partnerships, licensing its data products for non-research applications, and fees for services provided by the Cline Center to researchers on campus and around the world.
DESCRIPTION OF THE CHARTER

Although there is growing enthusiasm in commercial, governmental, and academic circles for the potential of the Big Data revolution to advance human flourishing, a wide gap between promise and reality remains. Data science is realizing its transformative potential more fully in domains like engineering, astrophysics, and climatology where most data take the form of discrete values represented as rows and columns in a database. With structured data in database formats, the key Big Data challenge is processing the extreme volume of information. Scientists have developed efficient software frameworks such as database engines, query languages, and statistical analysis packages for structured data that enable domain experts in the humanities and social sciences to query and analyze large datasets. These software frameworks free domain experts to focus on developing subject-specific analyses rather than acquiring Computer Science expertise, giving them more opportunities to solve problems and make discoveries.

But data science is less advanced in applications where data are ‘unstructured’ like the words in this paragraph. In such cases, the underlying structures of interest must first be defined before meaningful analysis can proceed. Few software tools currently exist that enable researchers lacking sophisticated understanding of machine learning, computational linguistics, and software development to analyze unstructured data at extreme scales. This is an important barrier to innovation in the social sciences and humanities, because much data of interest to these disciplines is unstructured.

The absence of tools for unstructured data analysis presents two challenges that these researchers struggle to overcome. First, the statistical software and computing hardware most commonly available to the vast majority of non-STEM researchers are easily overwhelmed by the amount of raw text to be processed and visualized. Second, few social science or humanities researchers possess the advanced computational training needed to build analytics workflows and deploy text-mining algorithms. Fewer still have ready access to sophisticated cyberinfrastructure required to analyze unstructured data at scale. As a result, innovative data science discoveries have been fewer and farther between in the liberal arts and social sciences than in STEM fields.

Extreme-scale unstructured data resources like the 500 million Tweets produced daily, or the millions of news articles published in the New York Times between 1945 and today, offer immense opportunities to better understand important societal needs such as effective environmental decision making, managing food production resources and policies, studying the effects of climate change on societal instability, and improving diagnosis and treatment of illness. Harnessing the potential of unstructured data is one of the grand challenges facing data scientists, social scientists and humanists today.

The Cline Center aims to equip and empower a new generation of social scientists, humanists, and data scientists to take up key challenges that threaten human flourishing in the 21st century—climate change, civil unrest, sustainability, inequality, security, and public health, to name a few—by applying advanced computational techniques at extreme scales to discover innovative solutions hidden in unstructured data.

The Cline Center serves to connect computational expertise in the data sciences with domain expertise in the social sciences and humanities in ways that address pressing societal problems
around the world. Its many activities encompass several research initiatives, including monitoring civil unrest globally; tracking the over-time development of economic, political, and social indicators for 165 countries; and developing new algorithms and analysis tools for studying the nearly 100 million articles in the Cline Center’s Global News Archive. The Cline Center’s mission also supports a wide range of teaching and public engagement activities, from fellowship programs for faculty and graduate students to undergraduate research opportunities and topical symposia for the University of Illinois campus.

**Mission:** Transforming information into knowledge that advances human flourishing.

**Vision:** The Cline Center will be the pre-eminent research center for extreme-scale analysis of news texts and for using text analytics methods to study civil unrest.

**Core Values:** Collaboration, Innovation, Transparency, Excellence, and Discovery (a fuller explanation of these values can be found at [http://www.clinecenter.illinois.edu/about/](http://www.clinecenter.illinois.edu/about/)).

**Three Target Audiences:** (1) Researchers in the data sciences who are discovering new ways of extracting structured knowledge from unstructured information; (2) Researchers in the social sciences and humanities who can benefit from data science solutions for understanding problems affecting human flourishing; (3) difference-makers in the public and private sectors who are removing obstacles to human flourishing.

**Strategy:** The Cline Center operates with a long-term strategy built around developing novel data assets and software resources that (1) would be otherwise unavailable (or at least undersupplied) to the academic community because they are prohibitively expensive to build or maintain; (2) can be made easily accessible to a wide range of potential users in the social sciences and humanities without requiring those users to possess specialized training in computer science; (3) are inherently valuable for stimulating a wide range of innovative research initiatives in the fields of data science, social science, and humanities; and (4) retain or increase in value to the academic community over time.

The Cline Center’s core asset base consists of two types of data: (1) extreme-scale collections of unstructured textual data created by news content providers from around the world (e.g., the corpus of over 60M full-text news stories collected by the Cline Center’s Voyager global webcrawling system since 2006), and (2) structured datasets created by the Cline Center that have either been derived from unstructured news text (e.g., SPEED civil unrest event data) or created by other advanced methods in order to support a wide range of social science research on human flourishing and societal well-being (e.g., the Cline Center’s Educational Attainment dataset or its Rule of Law dataset). These two types of data are the raw material for the Cline Center’s collection of unique and desirable research products.

Realizing the potential of these data products for our campus community and beyond requires developing analytics tools and easily-accessible points of entry for data science, social science and humanities researchers to make innovative discoveries. A second part of the Cline Center’s strategy is therefore to lower the opportunity costs facing social science and humanities researchers interested in text analytics. The Cline Center works to provide data and tools that place the power of Big Data analytics into the hands of researchers without advanced degrees in
Computer Science.

A third part of the strategy is creating opportunities for faculty, graduate students, and undergraduates to use the Cline Center’s data and tools to gain experience in data science methods while pursuing innovative research. Providing transformative research experiences to undergraduate students has long been a signature part of the Cline Center’s activities on campus.

The fourth and final part of the Cline Center’s strategy is demonstrating the potential of data science methods for enabling discovery and innovation by using those methods to study civil unrest and human conflict around the world and over long spans of time. The Cline Center is an innovator in monitoring small-scale civil unrest events using Artificial Intelligence algorithms and hybrid systems that immerse highly-trained human analysts in customized software environments. In addition to the Center’s signature Social, Political, and Economic Events Database (SPEED) project, the Center has compiled the most expansive database of coups and attempted coups available to academic researchers, generates time series data on the changing mix of religious and ethnic groups in nearly 200 countries, and contributes to the Phoenix event data project hosted by the Open Event Data Alliance.

**Historical Background on the Cline Center**

The Cline Center was inaugurated as a unit in the College of Liberal Arts & Sciences on October 26, 2004, and formally dedicated in its current location within the University of Illinois Research Park on October 29, 2007. The Cline Center was founded to shed light on the causes and consequences of political upheaval around the world by addressing two important gaps in available knowledge: there were few valid quantitative measures that could chart the course of nations along the path to—or away from—democratic rule, and there was no reliable way to track the occurrence of small-scale acts of civil unrest that often lead to large-scale political instability. This founding purpose has been pursued through the center’s two signature research projects. The Cline Center’s Societal Infrastructure and Development (SID) project creates new forms of comparative and historical indicators of economic development and democratic governance for every country in the world with a population of at least 500,000 persons. Its Social, Political, and Economic Events Database (SPEED) project documents civil unrest events—from small protests to major demonstrations and acts of political violence—that so often change the course of nations.

Over the course of developing these signature research projects, the Cline Center has also become a leader in Big Data research in the social sciences and humanities by bringing data science methods to bear on social problems. At the heart of the Cline Center’s research activities is a unique text-minable archive of nearly 100 million news reports from 1915 to yesterday that come from every country in the world. By creating new forms of structured data out of this unstructured text and by building innovative software for analyzing textual data at extreme scales, the Cline Center equips researchers with new tools for transforming insight into deeper understanding of the causes and consequences of social conflict. It also empowers decision makers to apply this understanding in ways that promote societal well-being around the globe. In this way, the Cline Center aims to foster transformative social science research with potential to improve the welfare of people worldwide.
Because unstructured textual data is so important to social science research, the Center is committed to continuing and expanding its efforts to apply technologically advanced methods to key societal challenges. Vast increases in computational power, the proliferation of prodigious amounts of digitized text, and the continued refinement of data science methods have the potential to transform the social sciences and humanities in the same way that the molecular revolution transformed biology. Effectively capitalizing on these developments can yield enormous benefits to Illinois researchers across multiple disciplines. Our campus’s unquestioned strengths in data science (e.g., its prominence in computer and information science, including units like the National Center for Supercomputing Applications, the Grainger Engineering Breakthrough Initiative’s commitment to Big Data, the Illinois Informatics Institute, etc.) make the Cline Center uniquely positioned to expand the research capacities of social scientists and humanists. The Cline Center’s investment in cyberinfrastructure and information assets, its experience in dealing effectively with Big Data, and its established network of data science collaborators, enable it to play a vital role in enabling the campus reap the benefits of this information revolution. This, in turn, can help to establish Illinois as one of the world’s preeminent social research centers in the 21st century.

The Cline Center’s Research, Learning, Engagement Activities

The Cline Center’s mission supports a wide range of research, learning, and engagement activities.

Research Activities

- **Developing the Cline Center Global News Archive as a Data Resource for Extreme-Scale Text Analytics Research.** The Cline Center developed and now curates a text-minable global news archive consisting of nearly 100 million news articles published between 1915 and the present that represents news output from every country in the world. The largest portion of this news archive is the Cline Center’s web crawler operation, which adds roughly 30,000 news stories each day from over 5,000 news sources around the world.

- **Developing Innovative Cyberinfrastructure and Analysis Tools to Facilitate Extreme-Scale Text Analytics Research.** The Cline Center developed and released nine major pieces of software that together make up the Cline Center’s current cyberinfrastructure platform, including the Scout content annotation and data management system, the Quiver extreme-scale text archiving system, the Voyager web crawler and extensible data ingestion pipeline, a prototype for the Redstone non-consumptive text-mining platform, and the Slipstick dataflow engine. The Cline Center is actively exploring licensing opportunities for several of these software components.

- **Creating Novel Data Products for Cross-National Comparative Research.** After a period of initial consolidation, the Cline Center began generating and releasing data sets to the public in 2008. Between 2008 and the present, the Cline Center released 13 data sets supporting cross-national comparative research on rule of law, civil unrest and democratization. Several of these datasets are generating wide interest within the social sciences. For example, an article co-authored by Cline Center staff which introduces the center’s Rule of Law dataset is currently among the top five most-read articles this year from the *Journal of Law and Courts*. 
• *Creating New Data Sets for Extreme-Scale Text Analytics Research.* The Cline Center partnered with the HathiTrust Research Center to help produce the HathiTrust Extracted Features dataset, which has amassed over 500 Google Scholar citations since its release in 2015. The Cline Center is preparing to release several planned extracted features datasets of its own, derived from the center’s Global News Archive. The first extracted features dataset will consist of sentiment scores for 5.7M news articles published in the *New York Times* from 1945 to 2005. Extracted features datasets like these are important for accelerating data science innovation outside of traditional STEM fields, as they will allow a wide range of non-STEM researchers to conduct extreme-scale text analytics research using conventional statistical software (e.g., SAS, R, Stat, SPSS) that is already widely used in the social sciences.

• *Monitoring Civil Unrest around the World.* One of the Cline Center’s signature research projects is monitoring civil unrest globally over long spans of time. The Cline Center uses this project’s visibility to demonstrate the usefulness of data science methods for social science research. Over a period of eight years and with an investment of well over $1M, the Cline Center has developed a unique hybrid human-machine system for extracting civil unrest event data from news coverage that allows civil unrest events to be documented with the precision of human analysis but at the scale of fully-automated analysis. One recent commentator described the Cline Center’s SPEED project as “the state of the art in the production of political event data.”

• *Fostering an Interdisciplinary Research Community for Text Analytic Scholarship in the Social Sciences, Humanities, and Data Sciences.* Over the past two years, representatives from the Cline Center have made 19 presentations at campus units from a total of five colleges to draw together a research community at Illinois that pursues text analytics research using the Cline Center’s data, software, and expertise. The Cline Center Faculty Affiliates program currently has 39 members from the Urbana-Champaign campus, spread across 13 departments and six colleges. The Cline Center also has initiated conversations with potential collaboration partners at other institutions, representing 17 departments or centers at 14 universities across five continents, including the University of Chicago, University of Michigan, Georgetown University, Northwestern University, the University of California San Diego, Mannheim University (Germany), and Hebrew University (Israel).

• *Partnering with Academic Researchers to Support Innovative Scholarship.* The Cline Center partners both with individual scholars and with research teams to advance innovative scholarship in line with the center’s mission. The following are just a few illustrative examples:
  o The *Comparative Constitutions Project* (CCP) was founded at the Cline Center by faculty affiliates who have since left for other institutions, and remains supported by the Cline Center to this day. Under the leadership of Professor Tom Ginsburg (University of Chicago) and Professor Zachary Elkins (UT Austin), the NSF-funded CCP has compiled annotated versions of every national constitution ever written. CCP partnered with Google to produce the *Constitute* search platform and Google queries about national constitutions now automatically generate boxes

---

that link directly to Constitute’s CCP data. Notable awards honoring CCP’s work include the 2013 best dataset award from the Comparative Politics section of the American Political Science Association, the 2012 Innovating Justice Award from the Hague Institute for the Internationalization of Law, and a listing on the 2013 Nominet Trust 100 List, which recognizes the 100 most inspiring social technology innovations across the globe. Publications by CCP authors have amassed more than 700 Google Scholar citations and awards including the 2009 best book award from the Comparative Democratization section of the American Political Science Association.

- The Democracy and Dictatorship dataset developed with Cline Center support by the Cline Center’s former Boeschenstein Professor José Cheibub has generated over 1200 Google Scholar citations. Publications associated with the Leader and Ruling Coalition dataset developed with Cline Center support by the Cline Center’s former Merriam Fellow Milan Svolik have garnered over 700 Google Scholar citations.

- Over the last year, the Cline Center has negotiated a partnership with UC San Diego’s Center for Peace and Security Studies (CPASS). Data-sharing and joint research with the UCSD Machine Learning for Social Science (MLSS) Lab will leverage state-of-the-art data mining techniques to create a unique, searchable database containing 50 years of translated Open Source Intelligence documents collected by the CIA and digitized by the Cline Center. This will be the first opportunity for academics to identify interactions between violent groups on a global scale using advanced text mining methods to analyze millions of raw intelligence products.

- The Cline Center is collaborating with Emeritus Professor Phil Schrodt, Professor Patrick Brandt, and research scientists Andrew Halterman and John Beieler to generate worldwide civil unrest data for the Phoenix Data Project spanning 1945 to the present. As a partner in the Open Event Data Alliance (OEDA), the Cline Center is supplying historical event data to complement the real-time event data generated by Schrodt, Brandt, and Beieler. The Phoenix Data Project is the latest instantiation of a long-term event data generation project under Schrodt’s leadership that has resulted in a half dozen NSF grants for software alone.

- **Supporting Endowed Professorships.** Four endowed professorships were allocated to the Cline Center as part of its founding gift agreement, and holders of these professorships have been advancing innovative social science scholarship in key areas aligned with the Cline Center’s mission:

  - The James M. Benson Chair in Public Issues and Civic Leadership is held by Professor Jeffrey Mondak in the Department of Political Science, whose research interests focus on American and cross-national political behavior and psychology.
  
  - The Harold Boeschenstein Chair of Political Economy and Public Policy was until August 2016 held by Professor José Cheibub in the Department of Political Science. His research focuses on comparative political institutions and democratization. Professor Cheibub recently left the university, and this chair is currently unfilled.
  
  - The Charles J. and Ethel S. Merriam Chair of Political Science is held by Professor Scott Althaus in the Department of Political Science and the Department of Communication, whose research focuses on political
communication, public opinion, political discontent and accountability.

- The David F. Linowes Chair in Public Policy and Management is currently unfilled. In the interim, endowment revenue from this chair is currently used by the Cline Center to fund the Linowes Faculty Fellow program.

- **Sponsoring Faculty and Graduate Student Fellowships.** The Cline Center has sponsored a number of competitive fellowship opportunities to connect campus researchers with Cline Center data resources and staffing expertise, including the Merriam Faculty Fellows program, the Linowes Faculty Fellows program, and the Schroeder Graduate Fellows program.

- **Hosting Academic Conferences.** The Cline Center has sponsored five academic conferences focused on research themes aligned with the center’s mission: the Measuring Inter-group Differences in Socio-cultural Groups Conference (Urbana, IL: April 24-25, 2014), the Proactive Peace-Building Conference (Chicago, IL: August 18-19, 2010), the Societal Infrastructures and Development Conference (Chicago, IL: April 24-25, 2008), the Illinois Conference on Congressional Elections (Urbana, IL: October 18-19, 2007), and Democracy in the Twenty-first Century: Prospects and Problems (Urbana, IL: October 24-25, 2004). These conferences resulted in the publication of three edited books published by academic presses.

- **Pursuing Translational Research that Supports Non-Academic Organizations Advancing Human Flourishing around the World.** The Cline Center is in active conversation with a number of prominent non-academic organizations to explore how the center’s research efforts can support their work to advance societal welfare around the world, including the Pew Research Center, the Public International Law & Policy Group, the Baker & McKenzie law firm, the Brookings Institution, and the American Civil Liberties Union.

### Learning Activities

While the Cline Center has no formal teaching mission, it has been a long-standing partner in our campus’s Civic Leadership Program and aims to provide undergraduates and graduate students with transformative learning experiences by involving them in various aspects of its research operations.

- **Paid Undergraduate Research Positions.** According to the Office of Undergraduate Research, more than 80% of research opportunities outside regular classes are unpaid positions, 2 which leaves many less-affluent undergraduate students with a difficult choice between unpaid but intellectually-rewarding opportunities or paid work with minimal educational benefits. The Cline Center has been a significant source of paid undergraduate research opportunities for the campus. Since 2006, the Cline Center has provided paid research opportunities to 116 undergraduate students, largely through the center’s Nerad Student Fund. Since 2008, the total number of undergraduates in paid Cline Center research positions amounted to nearly half the number of students doing undergraduate research for course credit with the Department of Political Science, even though the Cline Center is about a tenth the department’s size in terms of staffing.

---

• **Active Learning Courses for Undergraduate Students.** In AY2009-10 the center offered three [Cline Center Challenge Courses](#) that engaged a select group of 35 undergraduate students in the center’s civil unrest research projects. These practicum-style courses provided students with invaluable experience in applying advanced information technologies to the study of civil unrest. The Cline Center has also supported a number of faculty-led undergraduate research projects through the Junior Honors Seminar program in the Department of Political Science. One of those class projects is forthcoming in a leading peer-reviewed journal for mass communication researchers, another produced an authoritative analysis of racial stereotyping in local news coverage of crime suspects that is widely-known throughout the social justice networks of Champaign County and has been downloaded nearly 700 times.

• **Paid Graduate Student Research Positions.** Since 2006, the Cline Center has provided paid research opportunities to 137 graduate students in student hourly positions, and to 82 graduate students in paid research assistantships.

### Engagement Activities

The Cline Center’s external engagement mission is a core part of its strategy to stimulate interest in a wide range of public affairs topics associated with the center’s research activities and to place its data in the hands of researchers around the world.

• **Civic Leadership Program.** In partnership with the Department of Political Science, the Cline Center took the lead in creating the campus’s [Civic Leadership Program](#) (CLP). The CLP was formed to prepare undergraduate students for pursuing careers in public service by training them in ethics, leadership, and policy analysis and by providing paid internships that served as career-enhancing springboards. The CLP is currently housed in the Department of Political Science.

• **Public Symposia.** Since record-keeping began in 2007, 631 Illinois undergraduate students have participated in two-day annual [Cline Symposia](#), in addition to the 58 Civic Leadership Program students who served as small group discussion assistants and 28 distinguished alumni who served as small group discussion leaders for these Cline Symposium events. Another 128 undergraduate students, 26 Civic Leadership Program student assistants and 10 alumni participated in one of the [Northern Trust Forums on Democracy](#) hosted by the Cline Center in 2008 and 2009. The Cline Center also hosts an occasional [Lincoln Symposium](#) and recently inaugurated an annual [David F. Linowes Lecture](#) that brings prominent intellectual leaders doing research in public policy into contact with Illinois faculty and graduate student audiences.

• **Mandela Washington Fellowship for Young African Leaders Civic Leadership Institute.** In 2016, the Cline Center partnered with the Department of African-American Studies to bring 25 young African leaders to the Illinois campus for a six-week immersive learning experience designed to build civic leadership skills and nurture transformative change in their home countries. The Mandela Washington Fellowship is the signature program of President Obama’s Young African Leaders Initiative, and a follow-up letter from the Project Director noted that “[a]s reflected in the Fellow feedback received, the Civic Leadership Institute at the University of Illinois at Urbana-Champaign provided Fellows with an invaluable opportunity to develop and hone new professional skills as well as utilize and advance their leadership potential.”

• **Developing Collaborative Partnerships with Non-Academic Organizations.** Central to the
Cline Center’s mission and core values is collaborating with non-academic research teams and decision-makers to extend the center’s impact well beyond the state of Illinois.

- The Cline Center has pursued several long-term research collaborations with the Construction Engineering Research Laboratory (CERL) of the U.S. Army Corps of Engineers, including efforts to secure Minerva Initiative funding. One of those collaborations produced six country-level studies of civil unrest dynamics over several decades that supported “best practices” development for United Nations and NATO peace-building operations in countries affected by natural resource conflicts.

- The Cline Center has been actively supporting the Public Interest Law and Public Policy Group (PILPG) through the Comparative Constitutions Project. As noted on their web site, PILPG “is a global pro bono law firm providing free legal assistance to states and governments involved in peace negotiations, drafting post-conflict constitutions, and prosecuting war criminals.” PILPG has been an active participant in resolving civil wars in such places as Darfur, Rwanda, Somalia, Afghanistan, Burma, Nepal, Sri Lanka, Bosnia, Kosovo, Iraq, Libya, Syria, Tunisia, and Yemen. It uses the Comparative Constitutions Data to assist parties involved in post-conflict peace processes to draft new national constitutions that help bring long-running civil conflicts to an end.

- The Cline Center has been engaged in extended discussions to develop partnerships with 35 corporate businesses spanning the energy, technology, security, and finance sectors, and another 12 nonprofit or non-governmental organizations including the Pew Research Center, the Brookings Institution, and the Center for Strategic and International Studies.

Alignment with Strategic Priorities of the University System, Campus, and College

The research, learning, and engagement activities of the Cline Center are strongly aligned with the strategic priorities of the university system, the campus, and the College of LAS.

Cline Center Alignment with University System Priorities. The University of Illinois system of three campuses is guided by a strategic framework released in May 2016. The Cline Center’s activities are strongly aligned with the framework’s overall purpose of “optimizing impact for the public good” (this phrase is the subtitle of the framework report), and its mission, vision, and core values are reflected in all five of the framework’s guiding principles (p. 2). Specific points of resonance with the system’s strategic framework include efforts to “grow and diversify experiential learning and career guidance” (p. 5), “forge new research and development partnerships around the world” aimed at improving societal performance (p. 9), “promote strong civic engagement among students, faculty, staff, and residents of Illinois” (p. 12), “develop a System-wide strength in data analytics that draws on the numerous efforts underway across our universities, informs planning, and serves as a comprehensive repository of reliable data that is easily accessible by all our universities, regional campuses, and Illinois Extension sites” (p. 15), as well as to “Increase and diversity our funding streams” (p. 16).

---

Cline Center Alignment with Campus Priorities. The University of Illinois Urbana-Champaign is guided by the “Visioning Future Excellence” strategic plan that defines six major areas of thematic focus for the campus: Economic Development, Education, Energy and the Environment, Health and Wellness, Information and Technology, Social Equality and Cultural Understanding. The Cline Center supports research, teaching, and public engagement relevant to all six themes, but the Cline Center’s mission and vision emphasizes two of them: Social Equality and Cultural Understanding, and Information and Technology. In addition, the Cline Center’s goals are closely aligned with the four goals of the campus’s “Visioning Future Excellence” strategic plan:

1. Foster scholarship, discovery, and innovation (especially goals 1b, 1c, and 1d)
2. Provide transformative learning experiences (especially goals 2a and 2e)
3. Make a significant and visible societal impact (especially goals 3b, 3d, and 3f)
4. Steward current resources and generate additional resources for strategic investment (especially goal 4c)

Cline Center Alignment with College Priorities. The College of LAS has its own set of six strategic priorities and associated initiatives. There is strong alignment between the Cline Center’s mission, its specific initiatives and metrics for success and the college’s strategic priorities:

1. Advance academic strength through (1) a coordinated program of hiring that supports the campus’ Visioning Future Excellence (VFE) strategic plan and (2) support for improving current faculty scholarship, discovery and innovation (especially Initiative 1.2)
2. Increase minority hiring (no strong Cline Center alignment yet, but future growth in staffing levels will create opportunities to support LAS hiring goals)
3. Advance a comprehensive initiative focused on undergraduate students’ experience to create greatly increased educational value (especially Initiatives 3.1 and 3.3)
4. Promote interdisciplinary research to support VFE themes (especially Initiative 4.1)
5. Improve College communication efforts (especially Initiatives 5.1 and 5.2)
6. Generate additional resources for strategic investment (especially Initiative 6.1)

JUSTIFICATION

The Cline Center provides a unique combination of research, learning, and engagement opportunities for our campus. The Cline Center has also grown to play an important role within the campus’s Big Data ecosystem as a data provider supporting a wide range of Illinois research on unstructured data analytics, a bridge-builder connecting the engineering campus with researchers in the social sciences and humanities, and as a translational site for connecting research expertise on campus to both private and public-sector partners with capacity to advance human flourishing around the world.

Understanding the Cline Center’s role within the campus’s Big Data ecosystem requires first understanding the specializations of several other campus units contributing to the Big Data research infrastructure at Illinois: the National Center for Supercomputing Applications; the

The National Center for Supercomputing Applications (NCSA) provides the campus with high-performance computing (HPC; essentially, supercomputing) infrastructure and is a national leader in cybersecurity and visualization for HPC environments. The Cline Center and NCSA have been active collaborators since 2008. The Cline Center draws on NCSA’s HPC infrastructure (e.g., Blue Waters, XSEDE) as well as its expertise in developing cutting-edge software for data analytics, and contributes in turn by developing new opportunities for NCSA to partner on projects originating in the College of LAS.

The Institute for Computing in Humanities, Arts and Social Sciences (ICHASS) is a unit within NCSA that was founded in 2005 to connect NCSA’s HPC infrastructure and expertise with a wide range of scholars in non-STEM fields. ICHASS serves the campus data science ecosystem primarily as an entry point for arts and humanities scholars to engage with data science researchers, and by training non-STEM graduate students in basic data analysis and visualization skills. Since the Cline Center has developed an extensive network in the social sciences and does not offer graduate student training, ICHASS and the Cline Center have enjoyed a strong relationship for several years in “common cause” to engage their respective non-STEM networks with data science opportunities in STEM units on campus.

The School of Information Sciences (iSchool) is the top library and information science school in the country. The iSchool serves as a primary site for graduate students outside of traditional STEM fields to learn data science methods for text analytics research. The Cline Center partners with iSchool faculty to provide opportunities for their graduate students and research groups to use Cline Center data resources.

The HathiTrust Research Center (HTRC) is a joint partnership between Illinois and Indiana University that provides access to the HathiTrust corpus (essentially, Google Books plus other volumes from a consortium of research libraries) for digital humanities research. The Cline Center’s approach to data storage, access and analytics has been inspired by the HTRC’s groundbreaking work non-consumptive text analytics research. Within the Illinois data science ecosystem, HTRC and the Cline Center provide the data and analytics expertise necessary for campus researchers interested in extreme-scale analytics using books (HTRC) or news content (Cline Center). The Cline Center has collaborated with HTRC by using the Blue Waters supercomputer to help produce data for the HTRC Extracted Features Dataset, which contains a wide range of features from nearly 2 billion pages of text held by the HathiTrust digital library.

The Illinois Informatics Institute is a PhD-granting unit within the iSchool that supports a broad range of data science training and research activities for both graduate and undergraduate students. The institute’s primary specialization is bioinformatics, and has no in-house domain expertise in the social sciences. The Cline Center has enjoyed a long-term relationship with the institute, primarily through hiring members of the institute’s analytics staff to work on Cline Center research projects.
The Social and Behavioral Sciences Research Initiative (SBSRI) is a new effort by the Vice Chancellor for Research to develop externally-funded, large-scale interdisciplinary projects among social and behavioral science faculty. Although it is still a work in progress, a primary goal for SBSRI is to bring a wide range of social and behavioral science faculty into conversation with one another around research topics of mutual interest in order to catalyze new interdisciplinary initiatives. The SBSRI does not have a distinctive emphasis on data science applications, but the Cline Center envisions supporting SBSRI-stimulated projects with a wide range of data resources and analytic tools to help Illinois researchers advance the frontiers of social and behavioral science using text analytics.

Finally, the Applied Research Institute (ARI) is a joint initiative of the Office of the Vice Chancellor for Research and the College of Engineering. ARI serves as a research and development incubator connecting researchers in the College of Engineering with industry and federal clients around 10 areas of specialty: cybersecurity, visual analytics and systems medicine, advanced materials, energetic materials, computational electromagnetics, micro/nano technology, applied materials science, prototype development, modeling and simulation, and Big Data. ARI has no significant presence in social science research domains (its “Big Data” focus is primarily on visualization technologies for medical applications).

In short, the Cline Center fills a vital role within the campus Big Data ecosystem as a data provider, bridge-builder, and translational site for connecting domain expertise in the social sciences and humanities with data science expertise for the purpose of transforming academic insight into actionable knowledge.

PROPOSED STRUCTURE

Reporting Line
The Cline Center is a unit of the College of LAS that reports to the LAS Dean via the Associate Dean for Social/Behavioral Sciences and Area Centers.

Organizational Structure and Personnel Profile
The Cline Center is currently organized into six teams overseen by the Director: Analytics and Data Management, Administration, Operations, CyberInfrastructure, Communication, and External Engagement. In addition, the Cline Center’s five computer servers are administered by the ATLAS group in the College of LAS. The Director is advised by an Advisory Committee made up of campus faculty from a diverse range of units (see “Academic Implications” section below).

The personnel profile of the Cline Center consists of a Director and Associate Director overseeing team leaders who in turn oversee analysts, researchers, and data scientists.

Director (Scott Althaus) serves as the chief administrative officer of the unit, and is responsible for academic and administrative leadership of the Center. The Director is responsible for strategic planning as well as the day-to-day operation of the Center, including the careful management of its financial resources. The Director is anticipated to be a full professor in the College of LAS.
Associate Director (currently unfilled) is responsible for the execution of Cline Center programming and the oversight of Center staff or activities, as determined by the Director. The Associate Director is anticipated to be a tenure-stream faculty member in the College of LAS.

Senior Applications Architect (Tom Redman) designs and implements the software infrastructure to make operational a dynamically scalable service platform that embraces HPC concepts and technologies for Cline Center software projects and collaborations.

Analytics and Data Management Coordinator (newly-created position, currently unfilled) oversees the Cline Center’s data management activities and the in-house analysis of the Cline Center’s data products.

External Engagement Coordinator (Dan Shalmon) advances the Cline Center’s research, educational, training, and entrepreneurial opportunities by engaging faculty, graduate students and undergraduate students as well as public-sector and private-sector stakeholders in the Cline Center’s mission, vision, and activities.

Systems and Collaborations Coordinator (newly-created position, currently unfilled) is responsible for coordinating research activities for Cline Center projects that require multi-team collaborations, and overseeing the Cline Center’s developing needs for system administration, cyberinfrastructure, and cybersecurity.

Analyst Coordinator (newly-created position, currently unfilled) is responsible for quality assurance for research projects involving human analysts, as well as coordinating research tasks to enhance operational capabilities of analyst teams, which includes testing and maintaining quality control standards for analyst output as well as analyst recruitment, training, and supervision.

Business Manager (Sheila Roberts) assists the Director in all aspects of the Cline Center’s administration, mission, and functions by implementing policies as well as managing the center’s budget and personnel appointments.

Researchers and Data Scientists include staff researchers, graduate students, and undergraduate students who develop software workflows and analyze data in support of Cline Center activities.

Analysts include staff researchers, graduate students, and undergraduate students who have been trained in how to reliably and validly extract structured data from unstructured text using project-specific protocols within the Cline Center’s cyber-enabled analysis environment.

ACADEMIC IMPLICATIONS

The Cline Center’s research, learning, and engagement activities are largely supported through the center’s own endowment revenue, private gifts, and self-generated revenue. These activities are also funded in part through Provost funding that helps the Center offer text analytics research opportunities to a wide range of units across campus. The Cline Center does not have plans to offer its own academic courses, but as detailed above it contributes to a wide range of academic
programs through its various activities.

The only tenure-stream faculty holding a fractional appointment in the Cline Center is its Director. The center’s Associate Director and faculty affiliates have no formal FTE commitments to the unit.

The Cline Center aims to build bridges between data science methods specialists and domain experts in the social sciences and humanities in order to develop high-impact projects around Cline Center data and analytics resources. Key to this goal is developing partnerships with a wide range of faculty affiliates across the Urbana-Champaign campus and around the world. The following faculty members currently serve as affiliates of the Cline Center:

Faculty Affiliates from the University of Illinois

- Barley, Will — Assistant Professor of Communication
- Baylis, Kathy — Associate Professor of Agricultural and Consumer Economics
- Bigman-Galimore, Cabral — Assistant Professor of Communication
- Blake, Catherine — Associate Professor of Information Sciences and Associate Director of the Center for Informatics Research in Science and Scholarship
- Bowen, Merle — Associate Professor of African American Studies, Gender and Women’s Studies, and Political Science
- Bowers, Jake — Associate Professor of Political Science and Statistics
- Brunner, Robert — Professor of Astronomy
- Christensen, Peter — Assistant Professor of Agricultural and Consumer Economics
- Cohen, Dov — Professor of Psychology and Law
- Craft, Stephanie — Associate Professor of Journalism
- Crost, Ben — Assistant Professor of Agricultural and Consumer Economics
- Dai, Xinyuan — Associate Professor of Political Science
- Diesner, Jana — Assistant Professor of Information Sciences
- Dixon, Travis — Associate Professor of Communication
- Efron, Miles — Associate Professor of Information Sciences
- Houston, Brant — John S. and James L. Knight Foundation Chair in Investigative and Enterprise Reporting, and Professor of Journalism
- Hummel (Chaudoin), Sarah — Assistant Professor of Political Science
- Jackson, Sally — Professor of Communication
- Kuklinski, Jim — Professor Emeritus of Political Science
- Lawless, Robert — Max L. Rowe Professor of Law and Co-Director of the Illinois Program on Law, Behavior and Social Science
- Livny, Avital — Assistant Professor of Political Science
- Ludäscher, Bertram — Professor of Information Science and Director of the Center for Informatics Research in Science and Scholarship
- Mendenhall, Ruby — Associate Professor of Sociology and African American Studies
Michelson, Hope — Assistant Professor of Agricultural and Consumer Economics
Mondak, Jeff — James M. Benson Chair in Public Issues and Civic Leadership, and Professor of Political Science
Poole, M. Scott — David L. Swanson Professor of Communication, Senior Research Scientist at the National Center for Supercomputing Applications, and Director of the Institute for Computing in Humanities, Arts, and Social Sciences
Robbennolt, Jennifer — Associate Dean for Research, Alice Curtis Campbell Professor of Law, Professor of Psychology, and Co-Director of the Illinois Program on Law, Behavior and Social Science
Roth, Dan — Founder Professor of Engineering, and Professor of Computer Science
Selin, Jen — Assistant Professor of Political Science
Shavitt, Sharon — Walter H. Stellner Professor of Marketing and Professor of Psychology
Tewksbury, David — Department Head and Professor of Communication
Torvik, Vetle — Assistant Professor of Information Science
Uribe, Alicia — Assistant Professor of Political Science
Wang, Shaowen — Professor of Geography & Geographic Information Science, Professor of Computer Science, and Founding Director of the CyberGIS Center for Advanced Digital and Spatial Studies
Wexler, Lesley — Professor of Law
Wilson, Robin — Roger and Stephany Joslin Professor of Law, Director for the Program in Family Law and Policy, and Co-Director of the Epstein Health Law and Policy Program
Winship, Verity — Professor of Law
Wong, Cara — Associate Professor of Political Science, LAS Global Studies, and Asian American Studies
Yao, Mike Zheng Yu — Associate Professor of Digital Media, Advertising, and Journalism

Faculty Affiliates from Other Institutions
van Atteveldt, Wouter — Assistant Professor of Political Communication (VU University Amsterdam, Netherlands)
Cheibub, José — Mary Thomas Marshall Professor in Liberal Arts and Professor of Political Science (Texas A&M University)
Elkins, Zackary — Associate Professor of Political Science (University of Texas — Austin)
Gartzke, Erik — Professor of Political Science and Director of the Center for Peace and Security Studies (University of California San Diego)
Ginsburg, Tom — Leo Spitz Professor of International Law, Ludwig and Hilde Wolf Research Scholar, and Professor of Political Science (University of Chicago)
BUDGET AND FUNDING STRATEGY

Current Budget
The Cline Center’s operating budget for FY2017 is estimated to be as follows:

<table>
<thead>
<tr>
<th>Cline Center Anticipated Expenditures for FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
</tr>
<tr>
<td>Symposia, Public Lectures, and Workshop Events</td>
</tr>
<tr>
<td>Operations Expenses</td>
</tr>
<tr>
<td>Facility Lease</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Resource Allocation at Inception. The Center was created as a partnership between the Illinois campus and Richard and Carole Cline. The Clines provided a $5M endowment and the Provost’s Office matched it by providing salaries for a director and an administrative aide, office space, and a five-year startup fund of $100,000 per year (support from this startup fund ended in FY2012). In addition, four existing endowed professorships were committed to the Center.

Additional Resources Generated since Inception. The Center used its initial resource base to pursue additional funding to support its operations. Since 2007 its efforts have generated over $4.2M from external and internal sources combined, as well as an additional $1.3M in new endowments. The Center has received another $1.9M in gifts from alumni and other individuals who have been involved in the Center’s activities.

Ongoing Financial Commitments. In addition to income generated by endowment revenue and private gifts, the Cline Center receives ongoing support from the Provost’s Office that covers the cost of the center’s lease as well as some additional personnel and operating expenses.

Future Funding Strategy. Because the Center has been successful in securing resources and strategic in deploying them during its gestation period, it is well-positioned to expand its success in generating external funds in the future. The Center’s focus on key global issues—in conjunction with its experience in dealing with Big Data, its multi-faceted support network, sophisticated cyberinfrastructure, state of the art hardware, and unique information base—create

---

5 This founding endowment of $5 million came in two parts: $2.5M was given as an immediate gift and the other $2.5M was given as a deferred testamentary gift.
6 $1M of these endowments is in the form of a testamentary gift.
the opportunity to generate future revenue streams that have both conventional (alumni and government funds) and unconventional components (entrepreneurial efforts to develop commercialized revenue streams).

With respect to conventional revenue streams, Center personnel will continue its advancement efforts, especially with respect to alumni who participate in its public engagement activities. It will also pursue traditional government funding outlets such as NSF. However, the Center’s substantive focus and prior investments make it eligible for newer sources of government funding for social sciences, such as the Defense Department’s Minerva Initiative and USAID’s Higher Education Solutions Network. With respect to unconventional revenue streams, the Center’s success in extracting and analyzing information on civil strife from a wide range of global news sources provides several options. For example, after decades of economic globalization, multi-national corporations are actively looking for underdeveloped countries where they can locate plants or create supply chains to support their manufacturing operations. Because a big factor in these decisions is the political and social stability of countries they are considering, political risk assessment firms have long sold country-specific evaluations to these corporations. Traditionally, these vendors make predictions about country-level risk factors based on expert assessments of qualitative or incomplete data sources. The Center’s capacity to do nearly real-time mapping of civil strife developments at the level of individual cities allows the Cline Center to build a subscriber base consisting of businesses, non-governmental organizations, and governmental entities who would receive real-time access to dynamic risk assessments. For commercial entities, this service would help them assess investment risks and supply chain vulnerability on a global scale. For non-commercial entities this service would provide the basis for monitoring risks to their employees, provide an information base for humanitarian organizations to monitor human rights abuses, and enhance the ability of non-governmental organizations to effectively target aid and infrastructure investments. To better assess the potential for commercializing parts of its operational capabilities, a team of Cline Center personnel has successfully completed the Research Park’s NSF Innovation Corps training program. This program is designed to help academics translate research discoveries into commercialized products.

OUTCOMES

Benchmark Indicators Demonstrating the Cline Center’s Impact
The following benchmark list provides metrics that encompass the Cline Center’s mission of transforming information into knowledge that advances human flourishing. Taken together, the metrics track research use of Cline Center tools and data from the initial engagement with these resources through pre-publication stages and finally to finished publications. They also track the Cline Center’s efforts to engage undergraduate and graduate students in research experiences, as well as to raise the public visibility of the Cline Center’s activities and resources.

Research Metrics
- Number of academic presentations/papers/publications using Cline Center analysis tools and data products
- Number of citations for academic papers or publications using Cline Center analysis tools and data products
- Usage statistics for Cline Center analytics tools and data products (e.g., downloads,
user sessions, etc.)
• Number of active research collaborations on campus and with other universities
• Number of affiliated faculty and researchers
• Number of data products released by the Cline Center
• Number of software products developed by the Cline Center

Learning Metrics
• Number of undergraduate and graduate students involved in Cline Center research activities
• Number of undergraduate and graduate courses using Cline Center data resources or analysis tools

Engagement Metrics
• Number of press reports and social media messages referencing the Cline Center
• Number of symposia, conferences, and workshops organized by the Cline Center, and the total attendance at these events
• Number of collaborative partnerships with non-academic organizations

Evaluation Process
The Director of the Cline Center reports to the Dean of LAS and is overseen by the Associate Dean for Social/Behavioral Sciences and Area Centers. The Director is evaluated every five years by a panel recommended by the center’s Advisory Committee and appointed by the Dean of LAS.

The Cline Center’s Advisory Committee meets at least once per year to assist in the formulation of policy for the center and advise the Director in a manner analogous to that of an advisory committee for academic departments with a Head (University of Illinois Statutes, Article IV, Section 3). Committee members are appointed from among tenure-stream faculty by the Director for annual terms, and selected from units across campus to ensure that different disciplinary perspectives are represented. During the 2016-17 academic year, the Advisory Committee includes the following members (in addition to the Director):
• Catherine Blake (iSchool)
• Dov Cohen (Psychology and Law)
• Donna Cox (NCSA)
• James Kuklinski (Political Science)
• Robert Lawless (Law)
• Pete Nardulli (Political Science and Law)
• Dan Roth (Computer Science)
• Shaowen Wang (Geography & Geographic Systems, Computer Science, and NCSA)
• Cara Wong (Political Science)
CLEARANCES:

A letter of support from the unit to which the proposed unit will directly report must be included.

(Clearances should include signatures and dates of approval. These signatures must appear on a separate sheet. If multiple departments or colleges are sponsoring the proposal, please add the appropriate signature lines below.)

Scott L. Althaus, PhD
Director, Cline Center for Democracy

Date:

10/26/16

Brian H. Ross, PhD
Executive Associate Dean, College of Liberal Arts and Sciences

Date:

10/27/16
October 26, 2016

Dear Members of the Senate Committee on Educational Policy:

I write to strongly support the proposal for granting permanent status to the Cline Center for Advanced Social Research (CCASR). Since its inception in 2007, the Cline Center has established itself as a visible and valued contributor to the college’s core activities of research, teaching, and public engagement. Over time it has secured a stable funding base and consolidated its two-prong vision to be a catalyst for innovative text analytics research that engages core questions of interest to social science and humanities scholars, and to use data science methods to better understand democratic governance, societal conflict, and civil unrest.

Last year I convened a college-level review to assess whether permanent status should be pursued. The Cline Center’s application is the result of that review. The review committee concluded that the Cline Center was “a well-managed center that addresses some of the most pressing social and political issues of our time…. [with] great potential to enhance the research profile of the College and University by contributing to understanding of conflict and democratic governance and by leading scientific advances in text analytics.” Through its efforts to establish productive relationships with data scientists around campus, the Cline Center has positioned the college to better engage in interdisciplinary data science research that brings together the full range of Illinois strengths both in engineering and in liberal arts and sciences. The Cline Center also enhances the university’s visibility in the public and private sectors by serving as a hub for translational research that underscores the relevance of academic scholarship for addressing longstanding problems affecting societal welfare around the world.

I fully support the center’s desire to change its name from “Cline Center for Democracy” to “Cline Center for Advanced Social Research.” The unstructured textual analytics that the Cline Center specializes in remains an underutilized approach for the social sciences and humanities because it is unusual for researchers in these fields to possess advanced computational science skills. It is also an approach with broad application to numerous research topics across multiple disciplines. The Cline Center is a campus resource that supports a wide range of discoveries in the social sciences and humanities by reducing the technological barriers that currently prevent scholars in these fields from fully engaging in the Big Data revolution. The name that the center chose at inception no longer conveys the center’s larger role or value to the campus community.

The old name has also become a hindrance to the center’s efforts at engaging with a broad range of STEM fields that have no interest in studying democracy but welcome opportunities to conduct data science research with scholars in the social sciences and humanities. The center’s
new name is enthusiastically supported by its staff and by the center’s benefactor, Richard Cline, as better positioning the Cline Center for realizing its full potential to our campus and to the multiple research communities it serves.

The Cline Center’s many research, teaching, and engagement activities offer rich opportunities for faculty and students to expand the frontiers of data science while also advancing innovative research in the social sciences and humanities. It has developed strong research collaborations among faculty in the colleges of Liberal Arts and Sciences; Engineering; Law; Business; and Agricultural, Consumer and Environmental Sciences, as well as the new iSchool and the National Center for Supercomputing Applications. In short, I am convinced that it is in the best interests of the campus as well as of the College of Liberal Arts and Sciences for the Cline Center to be granted permanent status.

Sincerely,

Brian H. Ross
Executive Associate Dean
College of Liberal Arts and Sciences
November 7, 2016

To the Members of the Senate Committee on Educational Policy:

I have been very pleased with the Cline Center during its evolution from an idea in 2003 to a successful institution in 2016.

What began with an initial conceptual emphasis on democracy has evolved broadly to encompass unique resources for studying civil unrest and innovative capabilities to apply extreme-scale text analytics methods, both applied to enable better understanding of societal problems that affect the well-being of people around the world.

From a related perspective, I have also been impressed with the Center’s success in working effectively in cross-campus collaboration and with the development and scope of its “big data” archive that can enrich the effectiveness of researchers from a variety of disciplines within the University and beyond.

In sum, I would like the Committee to know that, as an enthusiastic advocate and alumni supporter of the Cline Center from its inception, I fully support the Center’s application for permanent status and endorse the change in name to “Cline Center for Advanced Social Research,” a long-term identity that more clearly embraces the breadth of the Center’s character and the scope of its vision.

Sincerely,

Richard G. Cline
LAS ‘57
Life Director and Former Chair, University of Illinois Foundation
November 8, 2016

Bettina Francis, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Liberal Arts to establish the Cline Center for Advanced Research as a permanent center.

Sincerely,

Kathryn A. Martensen
Assistant Provost

Enclosures

c:   S. Althaus  
     K. Carney  
     A. Elii  
     A. Edwards