



# Board of Trustees

Research and Innovation,  
Legal and Legislative Affairs  
Committee

*February 13, 2020*

**BOARD OF TRUSTEES OF NORTHERN ILLINOIS UNIVERSITY**  
**Research and Innovation, Legal and Legislative Affairs Committee**  
**12:45 PM – Thursday – February 13, 2020**  
**Board of Trustees Room**  
**315 Altgeld Hall**

**AGENDA**

1. Call to Order and Roll Call
2. Verification of Quorum and Appropriate Notification of Public Meeting
3. Meeting Agenda Approval..... *Action*..... i
4. [Review and Approval of Minutes of August 15, 2019](#) ..... *Action*.....1
5. Chair's Comments/Announcements
6. Public Comment\*
7. University Reports
  - a. [Exceptions to Full-Time Requirements for Tenured Positions](#)..... *Information*.....20
  - b. [State Legislative Report](#)..... *Information*.....22
  - c. [Federal Legislative Report](#) ..... *Information*.....24
  - d. [Sponsored Program Administration Quarterly Report](#) ..... *Information*.....27
  - e. [Faculty Presentation](#) ..... *Information*.....46
8. Other Matters
9. Next Meeting Date
10. Adjournment

\*Individuals wishing to make an appearance before the Board should consult the [Bylaws of the Board of Trustees of Northern Illinois University](#), Article II, Section 4 – *Appearances before the Board*. Appearance request forms can be completed [online](#) in advance of the meeting or will be available in the Board Room the day of the meeting. For more information contact Karen Campbell, [kcampbell5@niu.edu](mailto:kcampbell5@niu.edu), Recording Secretary to the Board of Trustees, Altgeld Hall 300, DeKalb, IL 60115, 815-753-1273.

**Anyone needing special accommodations to participate in the NIU Board of Trustees meetings should contact Karen Campbell, [kcampbell5@niu.edu](mailto:kcampbell5@niu.edu) or (815) 753-1273, as soon as possible.**

**Minutes of the  
NIU Board of Trustees  
Research and Innovation, Legal and Legislative Affairs  
COMMITTEE MEETING  
August 15, 2019**

**CALL TO ORDER AND ROLL CALL**

The meeting was called to order at 11:40 by Committee Vice Chair Rita Athas in the Board of Trustees Room, 315 Altgeld Hall. Recording Secretary Jessica Cima conducted a roll call of. Members present were Trustee Rita Athas, Trustee Montel Gayles, Trustee Veronica Herrero, Trustee Bob Pritchard, Trustee Madalynn Mershon, Trustee Eric Wasowicz, Board Chair Dennis Barsema, and Committee Chair John Butler (by phone at 11:43).

Also present were President Lisa Freeman, Committee Liaison Jerry Blazey, General Counsel Bryan Perry, Board Liaison Matt Streb, Vice President for Administration and Finance Sarah McGill, and University Advisory Council (UAC) Representatives Sarah Marsh and Jason Hanna.

**VERIFICATION OF QUORUM AND APPROPRIATE NOTICE OF PUBLIC MEETING**

General Counsel, Bryan Perry, indicated the appropriate notification of the meeting has been provided pursuant to the Illinois Open Meetings Act. Mr. Perry also advised that a quorum was present.

**MEETING AGENDA APPROVAL**

Vice Chair Rita Athas asked for a motion to approve the agenda. Board Chair Dennis Barsema so moved and Trustee Montel Gayles seconded. The motion was approved.

**REVIEW AND APPROVAL OF MINUTES**

Vice Chair Rita Athas asked for a motion to approve the minutes of February 7, 2019. Board Chair Dennis Barsema so moved and Trustee Montel Gayles seconded. The motion was approved.

**CHAIR'S COMMENTS/ANNOUNCEMENTS**

Vice Chair Rita Athas commented: I would like to recognize the members of the University Advisory Committee representing the Research and Innovation, Legal and Legislative Committee. Professor Jason Hanna; Professor Kendall Thu, Faculty Senate President; Cathy Doederlein; and Jeffrey Royce. Do any of you have any comments you'd like to make to the board?

Kendall Thu commented: I'm going to defer my comments to the full Board meeting in a few minutes hopefully, but I do want to introduce my colleague Jason Hanna who's new to the UAC and Jason do you want to say a couple words. No?

Jason Hanna: I'm glad to be on the UAC, I'm from the Department of Philosophy.

Kendall Thu: Jeffrey Royce to my left side is the new president of the Operating Staff Council. Jeffrey do you have anything to say?

Jeffrey Royce: No thank you.

Kendall Thu: And you already know Cathy. Her reputation precedes her so. Thank you.

Rita Athas: Thank you very much. You probably noticed that I am not Chairman Butler. He is not here today, and I've had the privilege of filling in for him at this meeting. He had an unavoidable absence, but I believe he's on the phone.

Matt Streb: Confirmed that John Butler was present on the Phone: The Board will have to approve his participation via phone, assuming they do approve, he can participate in the meeting.

Rita Athas: I'd like to entertain a motion to allow Trustee Butler to participate in the meeting. Board Chair Dennis Barsema so moved and Trustee Montel Gayles seconded. The motion was approved.

Rita Athas: Okay, the motion was approved. You can participate in the meeting so that's great.

John Butler: participating in the meeting via phone

Rita Athas: While I am very new to all of this, I did have the opportunity during my trustee orientation to meet with Dr. Blazey and the people representing the RILLA committee and I must tell you how extremely impressed I am with the work that's being done at the university. When you're on the outside you have a feel for what you think is going on, but when you really get to sit down and talk to people it's very impressive. And along those lines, this weekend in another hat that I wear, I'm working on an immigration and refugee committee and we were looking for speakers for that committee and someone told me that they knew of a young man who worked for the Illinois Business Immigration Coalition and I should reach out to him and see if he would be a speaker. And so, I did call him and as we were talking, and I looked through his bio, I saw that he was an NIU grad from the College of Law. So, I told him that I had just been appointed to the Board of Trustees and completely unsolicited, he said to me that NIU had changed his life. That he was a DACA student and that he wanted to go to law school, he didn't know if he'd have the opportunity, came here, met with a law professor, they found a way for him to go through the program and he did receive his law degree. Then, when he graduated, he said he had numerous opportunities to go into private law firms, but he felt after what NIU had given him he needed to give back. And so he went ahead. I think it's one of those stories that I was extremely impressed with and I'm very, very proud to serve on this Board.

## **PUBLIC COMMENT**

General Counsel Perry indicated that there were no requests for public comment.

## **UNIVERSITY REPORTS**

### **Agenda Item 7.a. – Jerry Blazey**

Vice Chair Rita Athas asked Vice President for Research and Innovation Partnerships, Dr. Jerry Blazey for comments.

Vice President Jerry Blazey: Thank you Trustee Athas and thank you for chairing the committee this morning and good morning to the rest of the Board. Before I begin, I would like to welcome the newest member of RIPs to our team and that's Mark Hankins who is our Assistant Director for Technology Transfer. Welcome Mark. Today's agenda includes state, federal, and sponsored programs reports followed by a faculty presentation. First, Jenna Mitchell our state legislative liaison will give us an update on the budgetary and legislative year. After that Dr. Anna Quider, Assistant Vice President for Federal Relations will give the FY19 summary of her work in DC and some observations on the federal scene, which is always of great interest. Next Dara Little, Assistant Vice President for Sponsored Programs Administration will give the FY19 summary of activities in Sponsored Programs. Finally, Dr. Nicole LaDue will present on STEM education research. Before turning the podium over to Jenna I'd like to give a brief update on the Northern Illinois Center for Communities Sustainability or NICCS as we've taken to calling it. As a reminder, NICCS reflects our scholarly vision to prepare Northern Illinois for a century of change through preparation for a changing climate, changing demographics and advancing technology. As Jenna will report, funding for the Discovery Partners Institute and Illinois Innovation Network

led by the University of Illinois system was re-appropriated this year and that re-appropriation also funds NICCS. We've learned that the funding will now be handled by the Capital Development Board and we are awaiting word from the board and the U of I system about how and when to proceed. We consider the movement of the funds from the Department of Commerce and Economic Opportunity to the Capital Development Board a positive development. It will have somewhat less reporting requirements and we are used to working with the development board on large projects. The Illinois Innovation Network comprised of all state universities has now formed and offers a venue for NICCS to integrate with other efforts at other campuses. While waiting for the funding to be released we are preparing to engage our faculty on the design of the NICCS facilities and programs. So, I would like to pause for a moment to see if you have any questions on NICCS or where we are with the project.

Rita Athas: Are there any questions.

Jerry Blazey: Okay then Jenna would you like to give your report?

### **Agenda Item 7.b. – State Legislative Update**

Jenna Mitchell: Good morning. Thank you for the opportunity to speak with you all this morning on what has been happening in Springfield over the course of the last year and the 2019 spring session. This spring session was particularly positive for higher education. A welcome change in trends. The final budget for fiscal year 2020 included a five percent increase for NIU operations. While this is a step in the right direction and a welcome increase, NIU's state funding remains six percent below where we were in FY15, the last year before the budget impasse, so there is still much work to be done. The general assembly also passed a multi-year capital program for the first time since FY10. This included \$130 million total for NIU, \$77 million for new construction, and \$53 million for capital renewal and deferred maintenance. It's very important to note that this funding is not something that is immediately made available to the university in FY20 or in any given fiscal year. This is going to be a six-year process and the release of funds depends on a lot of different factors such as bond sales, project expenditure approval from the governor's office, grant agreement execution with state agencies, etc. As mentioned by Dr. Blazey, in addition to new capital funding, the \$500 million for Discovery Partners Institute was re-appropriated this year—of which NIU is slated to receive \$15 million. We're waiting for that process to move forward as well, but we are poised organizationally to move forward. Lastly, Governor Pritzker delivered on year one of his commitment to increase MAP funding by fifty percent over the next four years. The 12.5 percent increase in FY20 equates to an increased investment of \$50 million. It's projected to increase the number of awards by 10,000 students in fiscal year 20 and it can only go up from there—closing the gap of unfunded eligibility that we have in Illinois, which is currently around 82,000 students who are eligible for MAP but don't receive it due to a lack of funding from the state. NIU had a significant presence in Springfield over the course of the last year. Chicago as well when hearings were held there. President Freeman personally testified at six committee hearings and we received very positive feedback. I want to specifically highlight that following our testimony before the Appropriations II Committee and the Senate where we were making our request for FY20, I received an email from the Higher Education Chairman who said the following: *"Dr. Freeman's presentation was impressive and showed committee members that NIU is a pacesetter."* Under her leadership we can expect this reputation to continue. NIU also hosted and cohosted three events in Springfield this past year. We held our first annual advocacy day in April which was attended by 38 advocates including alumni, faculty, staff, and Chairman Barsema. We look forward to increasing attendance and expanding the reach of NIU's advocates in 2020. We cohosted a public university advocacy day with our sister institutions. And for this event a small team of campus leadership including Trustee Athas and Catherine Squires traveled down to Springfield to meet with legislators and then attend an evening reception. And lastly, we

cohosted a joint caucus breakfast with the University of Illinois at which President Tim Killeen and President Freeman addressed members of the NIU caucus and the University of Illinois caucus over breakfast to discuss all our legislative priorities for the upcoming session and also to discuss the status of Discovery Partners Institute as NIU was the first non-U of I campus to be announced as a hub. Aside from committees and events, the largest piece of my role this last year involved the tracking of legislation. Since the start of the calendar year, there have been over 6,000 bills filed with nearly 20 percent having a direct or indirect impact on the university. The bills impacting NIU are not specifically limited to higher education as policies from pensions to state government regulation to labor, etc. all impact the way that NIU operates, the funding that we have, and our employees and our students in different ways. To manage this process of tracking all the bills that were impacting the university, we've procured a subscription to Hannah Illinois which is a software that helps with status updates and filing notices based on different statutes that are being amended or added. However, the true heavy lift here was bill analysis and understanding how exactly NIU was impacted and the analysis process would not have been possible if it weren't for the relationships that I've established with leaders across campus and the time and commitment that their offices have contributed to this effort. I want to specifically note that Police Chief Phillips played a significant role in breaking down various pieces of legislation at different times speaking directly with legislators to educate on the accompanying impacts and in some instances NIU helped brainstorm the policy ideas that turned into legislation. For example, Rebecca Babel NIU's Director of Financial Aid, was asked to help think of ways that we could improve the MAP grant program, and one of her ideas ended up being filed in both chambers. This demonstrates the capabilities that we have to guide and improve state policy. There were various pieces of legislation moving this past year on which NIU took the lead or played a leadership role in driving forward. On this piece I want to specifically note the passage of legislation that will allow NIU to sell university owned property that is deemed surplus and retain the funds for deferred maintenance expenditure. This was a significant piece of NIU's legislative agenda in 2019 and it was a big win for that to be signed into law by the governor last week. I also want to quickly note the leadership of Sherrie Taylor from NIU's Center for Governmental Studies. This is ongoing this summer. Not necessarily in the spring 2019 session, but she is doing significant work to help the state prepare for the 2020 census. Sherrie and her team not only created a statewide index map of the hard to count populations, but she is personally advising the governor's advisory committee on as it determines how to allocate the nearly 30 million that was appropriated this year for census efforts in Illinois. There are a few miscellaneous policy pieces that I'd like to highlight. First, Illinois just became the third state to mandate Illinois high school seniors to fill out a free application for federal student aid. Louisiana saw very positive outcomes from this policy in terms of increasing the number of students, high school graduates, that go on to apply and enroll in their postsecondary institutions in state and we hope that this will have the same impact in Illinois. It was very exciting to be at the front of an up and coming policy trend that other states have seen positive outcomes from and that kind of gives you a sense of the change in direction that we're seeing at the state level in Springfield in terms of higher education policy. Illinois also passed gambling expansion and legalized sports betting. It's important to note that NIU athletic teams are thankfully exempt from this legislation, which is something that we were not certain would be the case until the very end of negotiations. In January, the state voted to increase the minimum wage to \$15.00/hour over the next five years and this will impact NIU's finances. It's currently estimated to be an eleven-million-dollar impact by full implementation. The new unfunded mandate is one of many that we hope the general assembly and the governor's office will take note of when making budget decisions in future years. Lastly, come January 1, 2020, recreational cannabis will be legal in Illinois. It's important to note that the bill does contain a provision that Illinois universities and colleges must still abide by the federal drug free schools act. Therefore, the legalization of cannabis does not apply to NIU on this campus. Over the course of the next four months and throughout the

spring 2020 session, I will continue to advocate for NIU's priorities and educate members on the importance of investing in higher education. My main points of focus being getting NIU back to its FY15 pre-budget impasse funding level, which I believe the board just voted to approve, advancing the process of funding release to initiate new capital projects on campus, and see that the \$130 million that NIU received this year re-appropriated and trickled out over the next six years; and seeking appropriate regulatory reforms to promote efficiencies. I'm happy to answer any questions.

Rita Athas: Are there any questions for Jenna? Just before – Jenna can you talk a little bit about the NIU caucus in Springfield? How many people are alumni of the university and how many people have joined?

Jenna Mitchell: There are 24 members of the NIU caucus. Currently, ten are alumni. So, state representatives and senators who attended NIU whether undergrad or law school. And the other 14 have ties to NIU or are regionally located around here. Senator Syverson represents the DeKalb campus. He's a member of the caucus because he has the university in his district, and he cares about its success. And then we have Senator Don Dewitte whose son attended NIU and he's relatively close to the proximity as well. So those are some of the non-alumni members that are part of the caucus.

Rita Athas: I had the opportunity to meet with several of those members. It is amazing how supportive they are of NIU and how knowledgeable they are of NIU. Are there any other comments, questions?

Bob Pritchard: Jenna I'd just like to compliment you on a very successful legislative agenda this year and what you've done in many different areas. Can you elaborate a little bit more and maybe someone else will need to on the impact of the minimum wage on the university? Is this going to be phased in over four years? How can we manage how the minimum wage applies to our student employees or others?

Jenna Mitchell: I can speak to the phase in because it's in the legislation. It's over the span of five years and it starts, I believe this next January. It becomes effective January 1, 2020. So, it's a six-month impact in the first fiscal year and then ramps up four more times. But I will have to defer to someone from Human Resources or Finance for additional comments on the impact.

Bob Pritchard: And it's my understanding that minimum wage applies to interns as well as part-time employees or full-time employees?

Jenna Mitchell: That's not something that I can say for certain, but I'll look into it.

Bob Pritchard: Comment also if you will about the university liaison caucus and how that is going. If it's effective or does your success really relate to your efforts independent of what others have been doing?

Jenna Mitchell: The liaisons at the other eight public institutions and I work very closely together. During session we have weekly meetings. We're always in communication over group chat and I would say that the success this last year is a combined effort of everyone. There are certain pieces of legislation where someone takes the lead, but I would say the success and the way that higher education is being looked at more positively in Springfield is a combined effort across all public institutions.

Bob Pritchard: Well again, congratulations.

Rita Athas: Are there additional questions?

Dennis Barsema: I would echo Bob's comments what a great job you're doing. So, thank you Jenna. And I think it was imperative that we have our own representative in Springfield versus

using contractors and clearly you have proven that to be the case, so thank you. The advocacy day that I attended was well done, thank you to Trustee Athas for helping to organize that and for your previous role with the Alumni Association. I would encourage all the board members and I would encourage everybody in this room that when we have our next one, which I'm assuming there will be, to participate in that. It was a great experience for me. It was my first time in Springfield in a long time. I was very impressed with how well it was organized and with how willing the different legislators were to talk to us. I was impressed with how hard it is to find them sometimes. But it was a very worthwhile day. I found it to be a very great use of my time. So as the next one rolls around whenever it does, I would really encourage the trustees and everybody in this room to participate in that. I think this year we had 45 or 50 people, somewhere in that ballpark?

Jenna Mitchell: There ended up being around 38, but we're shooting for over 50 this year.

Dennis Barsema: Right, right. I mean so what's an ideal number that you'd like to have down there that you could manage?

Jenna Mitchell: I'd like to see it ramp up over time. If we have over 100 next year, I don't know logistically how that would work just yet. We look forward to the day when that is the case.

Dennis Barsema: Well thank you.

Eric Wasowicz: If you could get the date out as soon as you know when it will be that will be great to get that on the calendar.

Jenna Mitchell: Yes, we're waiting for the legislative calendar to be released. It usually comes out right after veto session. So, end of November, early December and we have four tentative dates on the calendar so that we could get everything reserved in Springfield. But once we see how the calendar shakes out, we'll pick a date and send out a save the date.

Eric Wasowicz: Thank you. And the eleven million that you stated for the minimum wage hit to us, is that an annual cost for us or is that accumulative over a certain amount of time?

Jenna Mitchell: I'd like to defer to Vice President McGill.

Rita Athas: I think Vice President McGill has some additional comments to make on that.

Sarah McGill: The eleven million that Jenna referenced, is over the expected duration of the ramp up, so that would take us through 2025 when the new minimum wage of \$15 goes into effect. The first increase happens in January 2020 and I'll just preface this with what are very preliminary estimates, of course they're going to get more refined, but it's about \$350,000 in that first year and then it ramps up to about \$2.5 million in that final year.

Eric Wasowicz: Okay, thank you.

Montel Gayles: Does it include all employees? Are any exempt from that?

Sarah McGill: Not to my knowledge. This would include all employees including student employees.

Veronica Herrero: I have a question about the FAFSA mandate. Do we expect to see any changes or implications whether they be positive or negative or do we basically expect to see no change here at NIU?

Jenna Mitchell: I would say that it's positive because a large part of students not even applying to school is because they just presume that it's not affordable. And filling out the FASFA makes you eligible for monetary award program grants, PELL eligibility, and a lot of financial aid assistance starts with FAFSA. You must fill that out to qualify and to even receive notice that you're eligible for a certain award. I think it will show a lot of students in Illinois that they can afford to carry on



their education, and I think that we will see a positive impact like Louisiana.

Veronica Herrero: Okay, thanks.

Rita Athas: Are there any additional questions? Thank you, Jenna. I appreciate the report and I would just like to add putting on my previous hat as a board member of the alumni association, in addition to hiring Jenna which was a brilliant move, Dr. Freeman and Dr. Streb have been so open to the alumni who are just waiting to be unleashed, the word we use, to work with the general assembly to being open to having them be part of an advocacy. The whole team that's been together has been important and impressive. So, thank you all.

Lisa Freeman: Well thank you Trustee Athas. As you indicated in your beginning comments no one tells our story better than our alumni and, so we appreciate the alumni participation.

Rita Athas: Thank you.

Jerry Blazey: Okay at this time Dr. Quider will shift us to the federal scene.

### **Agenda Item 7.c. – Federal Relations Report**

Anna Quider: Good afternoon, and thank you for the opportunity to be here today. I will provide a brief overview of the Office of Federal Relations activities from the past fiscal year and provide a brief update on current federal relations issues. Outlined here are the types and frequency of activities that we have led or facilitated this past year. This data along with more details are included in the federal relations written report in your packets. I will provide a few illustrative highlights to discuss. In March of 2019, NIU hosted our second annual congressional reception on Capitol Hill. This event was done in partnership with Federal Relations, the Alumni Association, and the Foundation and it was timed to align with the Political Science Department student spring break trip to Washington, DC. I'm highlighting this event today because it unites numerous facets of this office's service to the university, which includes policy advocacy, relationship building with congress and the federal agencies, student engagement, alumni engagement and visibility raising for NIU. The reception convened about 90 attendees including NIU alumni, Congresswoman Robin Kelly and Congresswoman Don Bacon, as well as Congressman Bill Foster and Myanmar Ambassador U Aung Lynn. Other federal stakeholders in attendance were staff from eleven congressional offices and the National Science Foundation. We sponsored the attendance of five federally funded NIU faculty researchers who ahead of the reception participated in meetings with federal agencies or on Capitol Hill and they showcased their work at the reception. The faculty were Karen Samonds of Biological Sciences, Victor Gensini of Geographic and Atmospheric Sciences, Nicole LaDue of Geology and Environmental Sciences whom you'll hear from shortly and, Eric Jones of History and the Center for Southeast Asian Studies, and Federico Sciammarella of Mechanical Engineering. This was a marquee event that we intend to hold next year. We seek to support faculty in their interactions with the federal government through a variety of ways listed here. As I just mentioned, showcasing faculty excellence and providing opportunities for engaging with federal policy makers is a key objective of our annual congressional reception. Pictured here is Professor Ralph Wheeler, Chair, of the Department of Chemistry and Biochemistry. He is discussing his million dollar federally funded STEM education programs with Professor Diane Souvaine who oversees the National Science Foundation as the Chair of the National Science Board and is a leading voice in federal science and technology policy. Meetings during this trip in April led to Professor Wheeler's joint nomination to the National Science Board by NIU and his professional association the American Chemical Society. In the center is Dean Don Peterson of the College of Engineering and Engineering Technology pictured during his visit to the House Science and Technology Committee in May. He spent the day on Capitol Hill discussing his internationally renowned expertise in exoskeletons and exosuits as well as the newly proposed engineering PhD programs

including the industry fellows program. Pictured on the right is Vice President Jerry Blazey, whom you know, and other senior research officers of leading public and private universities after meeting with the White House Office of Science and Technology Policy in July of 2018. He participated in the discussion of challenges and opportunities facing research universities at a critical time for this office when it did not have a senate confirmed director. Providing enriching opportunities and content for students is also a priority. We work with students in a variety of ways. Here are a few examples from this past year. Pictured on the left is Teeanna Brisco who is one of our four NIU Sponsored Congressional Summer Interns in our annual program. Here she is receiving a scholarship for the Illinois State Society of Washington DC from its president former Illinois Congressman Jerry Weller, as well as her internship host NIU alumni Congresswoman Robin Kelly. Pictured in the center is Vanessa Garcia, who joined students for the University of Illinois and Northwestern University in discussing federal science and education issues with Congressman Rodney Davis. With NIU sponsorship, she joined over 60 research one universities from across the nation at the catalyzing advocacy and engineering workshop and congressional visit day. On the right are Environmental Science and Mechanical Engineering students Kayla Koenig and Di'Quan Ishmon respectively who received sponsorship to join the political science spring break trip to Washington. As a scientist myself, I enjoy mentoring NIU's talented STEM students to explore policy making and consider opportunities to contribute to evidence-based policy making. This past year saw continued discussion of numerous federal policies that would affect NIU with little resolution. Assistant Vice President Dara Little will discuss some hot topics in research policy during her remarks so I will focus on briefly updating you on higher education, immigration and appropriations. The Higher Education Act is unlikely to be reauthorized this year. The House has completed its scheduled hearings covering college affordability and accountability, college noncompletion, the role of community colleges in historically black colleges and universities, and minority serving institutions in economic mobility and alternative pathways to a degree. The Senate has just begun its hearings. We could see draft texts from either chamber as early as the fall of this year, but more likely it will be released in 2020. Regarding immigration, the Deferred Action for Childhood Arrivals or DACA program continues to make its way through the courts with the US Supreme Court expected to hear arguments in November and release its ruling in the spring or summer of 2020. We are closely monitoring students in high skilled employment immigration policy as well. Regarding appropriations, fiscal year 2019 saw modest year-on-year increases to researched focused agencies as well as sustained support for student aid programs and international education. In July, Congress and the White House struck a deal to raise the budget caps for fiscal years 2020 and 2021. All indications are that we can expect flat to slightly increased funding levels for NIU appropriations priorities. That's said, policy issues can impact the budget timeline, so we are not out of the woods yet for fiscal year 2020 proceeding smoothly. On these and other issues, we engage policy makers individually and collectively. We work with the University of Illinois system, the University of Chicago, Northwestern University on a near daily basis as well as other Illinois institutions and through professional associations and topical national coalitions some of which are listed here. We maximize our impact through these partnerships. I serve on the Government Affairs Executive Committee of the Association of Public and Land Grant Universities and last year I served as President of the Science Coalition. In these roles I lead government affairs colleagues from top American research universities. Now I work to elevate the policy priorities that matter to NIU such as the democratization of science, access to education, and our federal funding priorities. For example, last year I encouraged APLU to include two programs of importance to NIU in their annual appropriations priorities that are distributed widely on Capitol Hill and among public research universities. These programs were an advanced manufacturing program at the National Institute of Standards and Technology and a regional innovation program at the Economic Development Administration. I'm also working to bring our message of inclusive excellence to Capitol Hill by creating stronger ties between public research

universities and the influential congressional tri caucus which is composed of the Congressional Asian Pacific American Caucus, the Congressional Black Caucus, and the Congressional Hispanic Caucus. Also, this year I was appointed to the Marshall Scholarship selection committee at the British Embassy. And I'm excited to bring that national scholarship expertise back to campus. During the upcoming year, we plan to continue to build on our advocacy and engagement successes while remaining nimble and responsive to the needs of federal stakeholders and our campus community. This year is off to a great start. Just last week Congressman Bill Foster and Congresswoman Lauren Underwood invited Provost Beth Ingraham to join them on a public panel discussing student loan debt and college affordability. Also last week NIU and the City of DeKalb cohosted Congressman Adam Kinzinger for a tour of the city and campus focused on economic development. And thank you to Trustee Pritchard for participating in that. Looking ahead to September and October we are planning to host Congresswoman Underwood for her first official visit to campus and Congressman Foster and Congressman Underwood are tentatively scheduled to attend our annual STEM fest in October. We are also working with the office of Congressman Krishnamoorthi to plan his first official visit to campus. Looking even further ahead, 2020 is a presidential election year which brings considerable uncertainty to the policy agenda for congress and the administration. We are prudently working with our peer institutions in Illinois and our national organizations to monitor campaigning as it progresses. Thank you for your time today. I'd be happy to answer any questions.

Rita Athas: Are there any questions or comments for Dr. Quider?

Montel Gayles: What are the top three things that we're looking for to get out of our federally elected officials, what would those things be? The top three.

Anna Quider: So, I would say number one favorable policy and funding positions. Number two understanding of the university's portfolio and opportunities to shine a light on the great work that's happening here. And number three I would say opportunities for our students. We work hard across the Illinois delegation to ensure that we have strong relationships that will place our students for our congressional internship program. I defer though if Vice President Blazey or President Freeman or others have thoughts.

Jerry Blazey: So, I would make a comment especially with respect to Dr. Quider's last priority. We do this as a very long gain and we want our students to start getting involved in Washington and that's why we have the interns and that's why we have the spring break and our faculty visits as frequently as we can so that we start influencing policy in a significant way with a number of our grads and our faculty say in the next five to ten years.

Rita Athas: Any additional questions?

Dennis Barsema: Just make a comment, I know we're about to receive a presentation on funding grant-wise and a good piece of that is from federal sources so thank you for your efforts in being a part of that and the great work you continue to do for us in Washington. Again, I said the same comments about Jenna and her role in the state. I think it's very important for us to have representation in Washington that wears the NIU hat. So, thank you for all your hard work on it.

Anna Quider: Thank you very much.

Rita Athas: Thank you. Oh, wait we have one more.

Bob Pritchard: I would just ask for a little elaboration on the interns that go out to Washington. I'm assuming a lot of that is done through the department, but you must be a good liaison. How many do we generally get in Washington and is that a good way of spreading the good will of Northern?

Anna Quider: So actually, I'll defer to Professor Streb to discuss the program because he's been – you founded the program I believe back about a decade ago.

Matt Streb: This year is our tenth anniversary of sending interns to DC. So, we send four interns every year that are university sponsored. There may be other students who are out there on their own. But we give them a \$6,000 stipend. Anna works very closely with us to make sure that we have appropriate placements. What I'll say is there's competition among congressional offices to get our interns because we've been providing them such really, really impressive interns. When I moved into this role, Cathy Doederlein has done a superb job of taking over the internship program and it's something that I'm very proud of and we have incredible students that go there and have transformational experiences. I just heard from one of them the other day that said it was the greatest summer of her life. So it's really a cool thing. Cathy, I don't know if you want to add anything.

Cathy Doederlein: Just would say and echo the comments that definitely our students represent us very well there and the feedback that they provide about the opportunity that it gives them and the growth and kind of mentorship that they experience from it is truly transformational.

Bob Pritchard: So those are internships that we fund, I mean Northern funds?

Matt Streb: Correct.

Bob Pritchard: So that would be what travel and housing?

Matt Streb: We give them a \$6,000 stipend which covers the cost of their housing. It gives them a little bit of spending money. They literally live right off Capitol Hill so they walk to work every day. It's a great experience. We just had this past year, Anna you could probably talk more about this, but Elizabeth and Brody both won Illinois State scholarships. You saw Tiana up on the – Tiana was actually last year's intern, part of last year's internship class. She won a scholarship. We had two more that won this year. They get a little extra money. They've done a wonderful job of representing – we just had – you were with me the other day when Congressman Kinzinger was here and he just talked about how wonderful the intern was that we sent this year. He was somebody that was mad at us for a while as Anna knows because we weren't giving him an intern and we had to rectify that.

Bob Pritchard: Very good. Thank you.

Rita Athas: Thank you.

Jerry Blazey: Thank you Dr. Quider. I'm going to spend a little time introducing the next talk not to steal Assistant Vice President Little's thunder, but rather to set the stage. So, I'm happy to report the university has seen a significant and sustained increase in our externally funding portfolio. And the credit for this great news belongs to our faculty and staff; from inception of ideas to submission and receipt of proposals and grants into execution and results. And on my part, I'd like to give personal thanks to all the staff in RIPS for their assistance and efforts in this success. Although this all starts with the hard efforts of the faculty and staff, they have been able to utilize several university programs supporting scholarship including external mentorships, intermural funding, and instrumentation and startup support. And I would like to thank the Board of Trustees for their support in providing those resources. Beyond those resources and as discussed in previous committee meetings, new doctoral programs, new clusters and new external relationships are important strategies for increasing campus scholarship and also are reflected in the presidential goals. And we are already seeing the impact of these new clusters and partnerships. And of special interest just to illustrate how broadly these strategies are reaching across campus, we have two joint positions with Argon National Laboratory that are of interest. One is with the School of Art and the other with the Department of Anthropology. So, although you might think that our

partnership with the labs would be limited to the physical sciences, we're actually now broadening them well beyond the physical sciences. We're also making new investments in the new doctoral programs and we will see the return on scholarship in the coming years. So that's just a bit of context about how we got to this position and I'll invite Assistant Vice President Little to elaborate.

#### **Agenda Item 7.d. – Sponsored Programs Administration**

Dara Little: Good afternoon. Thank you Vice President Blazey for the introduction and for setting the stage; and thank you Board of Trustees for the opportunity to present this year's FY19 Sponsored Funding Report. I will start again by echoing that it was another good year for NIU. As you can see here, we finished new external funding at \$35.5 million, that's a 17% increase over last year. As you can also see, we saw continued growth and this growth is across all sponsored activities. These funds include new awards and renewals that were competed as well as continuation funding for existing and multi-year awards. Faculty has successfully utilized the programs that Vice President Blazey mentioned in his earlier comments. And the combination of institutional investments and hard work and expertise of our faculty make this funding possible. That said, the administrators and staff in our academic departments and university business units who work hard behind the scenes to support these efforts are also to be commended. And I want to specifically acknowledge my staff in Sponsored Programs Administration who have worked very hard to keep up with this pace of increased external funding. And that's particularly true under the leadership of my stellar directors who are here today. Kellie Dyslin who oversees pre-award which is proposal development and submission and award acceptance; and Sue Gossman who oversees post-award and award management. It's been a big lift and I'm grateful for their efforts. In addition to proposal support submission and grants administration, SPA also has responsibility for managing faculty support and intramural grant programs offered through RIPS. As I noted in my written report to the board, funding this year is consistent with our usual makeup of federal and state agencies being our largest funders. While last year we saw more growth in federal funding, this year that distribution shifted. State funding this year increased by almost 50 percent, while the federal increase was nominal, about 8 percent. Based on our data, the increase in state funding is due to more outreach and engagement programming through our P20 center and ongoing survey research. We're still assessing this year's federal funding portfolio. While the makeup of state and federal funding will ebb and flow given the timing of various contracts, I expect that these funds will continue to make up the majority share of NIU's sponsored funding portfolio for the years to come. Another bright spot this year is that total funding is at its second highest level in a decade. These figures were adjusted to remove stimulus funding, student financial aid, and federally congressionally directed earmarks for a more equal year-over-year comparison. Given federal and state governments account for most of our funding, it's good to see this growth coming out of the recession, the federal sequester, as well as the state budget impasse. The funding distribution across campus units is fairly consistent with College of Liberal Arts and Sciences and Outreach receiving the most funding. However, the College of Health and Human Sciences saw a nice increase this year as well. This increase is primarily attributed to State of Illinois funding. Looking forward, we anticipate growth for other areas in the coming years as Vice President Blazey mentioned as the Computer Science and the College of Engineering and Engineering Technology build out their PhD programs and as we continue to develop collaborations with the area's national labs. So, all that said, the charts and graphs don't really do the work of our faculty justice. So, I'm going to spend a few minutes highlighting some of our faculty and their awards. In the top right-hand corner is Ralph Wheeler, Chair of Chemistry who led the acquisition of a one million-dollar NSF award to fund STEM scholarships to underrepresented and financially disadvantaged NIU students continuing NIU's commitment to building an inclusive STEM workforce. This was also the same award that Anna was referencing just a few minutes ago. To the top right is Melani Duffrin, Health and Human Sciences faculty, who brought with her to NIU

her four-year \$930,000 National Institutes of General Medical Sciences Science Education Partnership Award to continue her work on the food master initiative. A compilation of programs aimed at using food as a tool to teach basic research, science, and math concepts to grades 3 through 8 youth. Again, if you were here earlier, I know Dean Block had recognized that work as well so that is one and the same. In the bottom left hand corner is Susana Das Neves, Director of Migrant Education Services at NIU in the Center for P20 Engagement who is overseeing one million dollars received from the Illinois State Board of Education to provide educational services and support to eligible migratory and seasonal agricultural youth, families and children in Illinois. This was a team effort spirited by Amy Jo Clemens the Center for P20 Director to bring migrant education program services to NIU. And finally, in the bottom right is Presidential Research Professor and physicist Phillippe Piot whose work with Fermilab and Argon is just one example of how NIU's collaboration with the area's national labs are critical for our research programs. This year funding from national labs exceeded two million dollars and we expect further growth as these relationships expand. As Vice President Blazey already mentioned, those relationships have expanded into the School of Art, Anthropology, as well as Mechanical and Electrical Engineering. NIU's continued rapid growth in sponsored funding is exciting and it's certainly to be applauded. As my office looks to the year ahead, we are watching several what we consider to be hot issues that are either already impacting research administration or have the likelihood to impact it. The first, and these are in no particular order, is regulatory burden. National studies continue to show that researchers spend almost half their federal research time on administration. That's something that the federal government is very interested in and it's also something that we as a research university are very interested in. So, demonstrations are ongoing between federal agencies and grantees to understand how to address this considering increasing regulations. The second is foreign influence into research and the impact on economic competitiveness. And sexual harassment in agencies commitment to ensuring safe working environments that are free of sexual and other forms of harassment. I don't believe Sarah Garner is here anymore, but I do want to thank her and her office for working with us. We have seen new regulations come down from the National Science Foundation and from NASA and in order to meet those requirements it was critical that we be able to coordinate with her office. So, I do appreciate her efforts and willingness to work with us. At the state level one of the state government regulations Jenna that you had mentioned is the grants accountability and transparency act. This act continues to add to the administrative burden of securing and managing state funds. This has been particularly felt by Sponsored Programs Administration and probably program staff as well given the significant increase in state funding this past year. So all of this has us thinking critically about how we balance compliance without impeding research. Me and my team are working closely with Vice President Blazey, Dr. Quider, our colleagues in RIPS and other universities to assess and manage these issues. In summary, total sponsored funding and research funding continues to increase. Most of the increase in fiscal year 2019 funding came from State of Illinois grants. NIU and area national laboratory collaborations remain strong and continue to grow. Rapid funding growth and hot issues will require coordination between Sponsored Programs Administration and university units. This concludes my report. Thank you for your time and I'm happy to answer any questions.

Rita Athas: Thank you. Thank you very much. That is a very impressive list of grants and programs that you have, but you alluded to at the end, the continued increase in regulations and stipulations. You have the increased funding, which is actually great, but then you have this increased burden of regulation and performance standards, are you able to handle all the increased funding and how is that affecting your faculty and your administrators?

Dara Little: We are able to handle it. My staff are working very hard to support faculty and to manage all of the compliance requirements that you just mentioned that accompany sponsored funding. At the same time, NIU systems and processes were not designed for grants. And so,

what's happening now is that a lot of time either in central administration, in my staff, or even in faculty as they're managing awards, a lot of the time is spent on manual actions and work arounds to make things work. We're fully committed to making things work because our job is to ensure that the university complies with the sponsor requirements, but it is getting very difficult as this funding increases. We want to make sure that we're both good stewards of our sponsored funds to protect the institution, but ideally not at the expense of research. So, it is getting more difficult to manage the volume and the complexity of the awards and so we've certainly taken steps to update our processes. We're working to find long term solutions, but more work remains. And I want to make a note about the complexity of our portfolio because it wasn't in my presentation. Over half of NIU's funding portfolio is contracts. So that means that in over half of our portfolio the terms vary widely from award to award. And so central administration staff need to understand all the varying terms on the different awards as do faculty. That also introduces a lot more complexity for the oversight which can increase some of the burden for the principal investigators. So, trying to figure out how to manage that burden so they have their time to actually do the research that they've been funded to do while still meeting compliance is something that we're trying to balance.

Rita Athas: I think the research component of this university is so incredibly important and the fact that you've been able to increase funding in light of all the additional burdens that have put on you is something I know that our resources are always stretched, but this is certainly an area that we need to give some additional consideration to. Are there additional questions?

Montel Gayles: I've got a question on the churning of funding, you said 50 percent more from the state and then you saw a dwindling from the federal government. Is that a trend? Was that an aberration or is that what it's going to look like now moving forward.

Dara Little: No and not a dwindling from the federal. So, we still saw an increase in federal funding as well, just not as significantly as last year. This year the difference between fiscal year 18 and fiscal year 19 of state funding that's where we saw a significant increase. So, funding overall has increased from all sponsors.

Dennis Barsema: Does state funding include the money for the Northern Illinois Community Sustainability? So, none of that money was in that number?

Jerry Blazey: No and it won't be. It will show up in the facilities and the capital development board. Which frankly given our burden relieves us because if it had been in commerce it would have been a lot of work to administer.

Eric Wasowicz: So how do we compare to other state universities then as far as the funding?

Dara Little: There's several different ways to compare. It's a little harder to compare what I've reported here of just new awards because each institution includes different types of awards if you will. So, some may even include financial aid so just looking on its face it may not be an apples to apples comparison. If we were looking at our Illinois peers, I believe that NIU would be behind the University of Illinois in terms of new funding coming in. For expenditures, I'll have that information at the November meeting once we have the NSF Higher Ed results. So, I can answer that a little bit more definitely.

Eric Wasowicz: Okay. And then another question I heard you mentioned foreign influence as an issue. Could you elaborate on it? I don't really know what that means.

Dara Little: Who would like to take that?

Jerry Blazey: We were anticipating a question, so I invited Shannon Stoker who is the Acting Director for the office of Research, Compliance, Integrity and Safety to bring us up to date on that.

Shannon Stoker: The main concern with foreign influence in research is coming from the federal government and it is pretty much from foreigners from countries that have been deemed to have anti American values or anti-American ideals kind of coming in and stealing research. It is a very sensitive issue because we want to balance it with global collaborations and we want people to be proud of their research and we don't want to stop any of that, but we also need to have faculty recognize that their research is important and we want to mix security along with encouraging collaborations. So, it's kind of a newer issue and most universities don't really know what to do yet, so there's been some steps taken. Myself and Stephanie Brown from the international office did attend an FBI summit so we got some information on there. There is a summit in Loyola on the issue in September and there's going to be several people from - I know someone from Student Affairs is coming. We've invited several people as this crosses multiple departments. And you know we're just going to try to develop a plan that we hope can again encourage collaboration, but also increase safety of our research.

Jerry Blazey: Thank you Shannon. Anna did you want to add anything to that?

Anna Quider: The only thing I would add is that we have not seen any – we have seen some stand alone in legislation introduced, but nothing that has really been moving forward. What we have seen move forward though are amendments to must pass legislation like the National Defense Authorization Act and so we've been working closely with other institutions in Illinois especially the University of Illinois system. In fact, my office is in the same office suite as them and we share a wall, so we work very closely together. So, we've been working with the Illinois delegation as well as universities around the country to address amendments as they come up and to make sure as Shannon said balancing the need for protection with the need for openness of research.

Lisa Freeman: This is a conversation nationally that's going on at the level of the vice presidents for research and the presidents of institutions. I haven't been at a meeting where this hasn't been on the agenda and haven't seen representatives talking about the pending legislation. We've had people from the Federal Bureau of Investigation going over case briefings and so it's definitely something that's getting significant concern right now and the research universities are really acting together as a learning community to try to find the balance that's been spoken about.

Jerry Blazey: I will add that with respect to the national labs the federal government has control of their relationships with foreign entities and they basically shut down any collaboration with China in particular. They don't quite know how to do that with universities and so it's sort of an ongoing discussion about how the federal government can maintain that openness and collaboration, but also control basic intellectual property so that we're not put in an economic disadvantage.

Dara Little: I could just tie that briefly back then to research administration, one of the things that we are seeing, again going back to the regulations, is agencies are already asking for additional information in proposals. So again, that's something that we're trying to wrap our arms around to understand how we collect that information and make sure that we're meeting those reporting requirements to the agencies. The National Science Foundation, one of our largest federal funders, their OIG has already directed the agency to go back and look at past grant applications and awards to vet for foreign collaboration. So, it's something that the agencies are taking very seriously and issuing new requirements already.

Rita Athas: Are there any additional questions? If not, thank you so much for the presentation.

#### **Agenda Item 7.e. – Dr. Nicole LaDue**

Jerry Blazey: Okay that's our final information item for the day and as an example of the faculty hard work and scholarship in the past year, Dr. Nicole LaDue will now describe her work and collaborations in STEM education and research. This research has had an impact on our students



now and will have an impact on students in the future. And furthermore, from my point of view STEM education research is a very active field, has continued support and perhaps even I expect increasing growth as this issue becomes more and more important in Washington. So, we see it as great potential for further growth at NIU as well. Dr. LaDue.

Dr. Nicole LaDue: Thank you and I just want to take a moment to say thank you in person because I recently earned tenure and I want to thank you in person because very few faculty get to do that. So now you have a face to put with the name that you signed off on. I'd like to start with a cartoon to lighten the mood a little bit, particularly given the heaviness of the conversation. If you've ever sat through a scientific presentation or a class that is geared towards science, then you may have been in the same shoes as the presenter here and this is a good example of the type of research I do. I'm very interested in how students understand visual representations, how they process spatial information in their brain. To give you a sense of the portfolio of my research, my first love comes from the world of cognitive science. I'm in the Geology Department and I do STEM education research and I pull methods from the world of psychology and cognitive science to understand how students think and learn and how to improve their learning. Visual/spatial thinking is a very important skill particularly in the sciences. A second area of my research that is a somewhat newer area of research for me is in promoting confidence and interest in STEM. We have great levels of attrition out of our STEM majors and we need to figure out how to fix that problem. All of these themes occur through the lens of active learning. So, this is an umbrella term that we use in undergraduate education that is really about engaging students in building their understanding and constructing knowledge themselves. We've all had the experience of sitting in a classroom where someone lectures at them and how effective it can be versus when you have hands on experience and you're really engaged with the material directly. What we try to do is build pedagogies that really get students engaged. As I said before, my first love is this visual/spatial thinking research which is how I ended up in Geology in the first place. Spatial thinking is best described as a set of skills. This may be disembedding a pattern in a bunch of noise as you see in the top right picture, which is a mineral fabric, a rock texture. You may be more familiar with it if you've gotten a CT scan or an MRI you have somebody at the other end of that computer looking at the slices and trying to understand the structure that is in your body. We also use this in chemistry and in biology in terms of understanding molecular structure and how those structures play a role in the types of processes that we're studying. So spatial thinking is pervasive in STEM fields and in engineering. Longitudinal studies have also shown that it is highly predictive of whether you'll be successful in STEM. Although it was once thought to be this static inborn ability that you were born with high spatial thinking or low spatial thinking, there's substantial evidence now that it's a malleable skill. We can train it. And that's very promising because if we can train it then maybe we can build the next generation of STEM scholars. It is very, very important for STEM to try to figure out ways to train this and the techniques are – there's many studies going on to try to figure out which techniques work. The first one I'll talk about is a way I've combined the spatial thinking training and active learning in my classroom. When I went to school, we had paper and pencil and now we have all kinds of new and exciting technologies in the classroom. One of those technologies is clickers and so clickers are used to be sort of like the remote control where you could click on a piece of – like a remote control and answer A, B, C, D to a multiple-choice question. And the way that it was implemented is that the instructor during the lecture would try to make sure that you're all awake and with them and you'd pose a question on the screen and you'd say click A, B, C or D and then as the instructor I get feedback, immediate feedback polling all of my students to see where are thinking and are they with me or do I need to reteach the material. This is an active learning technique. In recent years we all have smart devices, which provide a new world of feedback that we can get from our students. That comes in the form of these heat maps. I can now pose a question and students can answer that on their tablet on their smartphone and it gives the

distribution of their clicks, of where they clicked on the diagram. And so, the left-hand picture shows where they clicked before instruction and the right-hand picture shows where they clicked after instruction and thankfully that means that students learned something or at least switched their answer. This gives me immediate feedback as an instructor, but as a researcher I started to get excited about the power of this tool to start to reveal student's mental models of scientific processes while they're sitting there quietly in their seat and standing there in front of the room. There's now this new way of us exchanging information. And it's helpful even with very complex spatial ideas. Engaging students and making predictions about where things will be at a time in future and demonstrating that they understand structures and processes that go on in all areas of science; so, anatomy and physiology, and geology. As I said, the geosciences, the STEM fields are very spatial disciplines. There's this really cool toy that UC Davis developed. They use sand just like a kid's sandbox and they used an Xbox Connects, and they have a code that reads the elevation of the sand and projects the image of the sand elevation onto the sand. The purpose of this was to help promote understanding of how fluid dynamics works, but also if you see those lines that are kind of running around on the screen and they kind of go along with the colors. Those lines are topographic map lines. If you're into hiking or have an engineering background you may have seen these topographic maps. They're not particularly useful in Illinois because there's very little relief change, but they are very useful when you're navigating elsewhere in the world. This is a cognitively challenging problem to help people understand topographic maps and I can tell you from teaching in the classroom for over a decade it is a big hurdle for students to understand the topographic maps and yet they're very, very essential for high level geology skills that you need for the oil and gas industry for example and in engineering for building. We're always trying to figure out how to get past this hurdle and so when the sandbox came out everyone was excited and they're building them all over the country and universities are building them and museums are building them; and so of course geoscience education researchers are studying them and thus far after three years of studying this with large groups of collaborators, there have been no documented learning gains as a result of interacting with the sandbox which is really disappointing to many of us. So, what we did is we took that sandbox and we brought it into the laboratory, and we engaged students in a one-on-one interaction using a cycle of prediction and feedback. We had students build things in the sand and then make predictions about how close they were to the actual map they were trying to construct, and we actually found learning gains. My master student and I did this study in collaboration with Tom Pingle who is at Virginia Tech and Tim Shipley at Temple University and we're really excited that we have learning gains and now the next step is to bring this back into the classroom and do a bigger study to see that we can actually affect change on a bigger scale. The second area that I'll cover briefly is confidence and interest. You've heard already about Dr. Ralph Wheeler and his STEM grant from the National Science Foundation and I am fortunate to be a Co-PI on that project. We titled it "Belong in STEM" so what we want to do is build students sense of belonging that they are meant to be where they are. They've set these goals for themselves and it's very well documented in the literature that students don't feel welcome when they're in their sciences disciplines that some students don't and so we want to try to prevent that from happening. My responsibility in this project is to conduct some qualitative research along with my graduate student who will be leading a peer mentoring group. They will be meeting with a peer mentor weekly to talk about a variety of challenges and most of the things that you might not engage with your professor about. I'm struggling with this peer interaction and I don't know how to handle it and I don't really want to go to my professor and show this weakness. This provides another avenue where students can feel that they have support, so they draw from this social support. And I also want to take a moment to say that the entire project team just spent the last two days completing code training, which is the conversations on diversity and equity training that is led by Jocelyn Santana and that is out of Dr. Vernese Edghill-Walden's office. We had a profoundly transformative experience. I can say that because those are actually the words

that Dr. Wheeler used. He said that it was a transformative experience for him to participate in that and I think that the training is going to really help us support the students that are in the scholarship program. Another project that I've been involved with is funded by the National Science Foundation and the lead PI is Nathan Stansell in my department in Geology, and he's bringing teams of researchers over to Estonia to study climate change and do field research. And the unique aspects of this team approach is that we are recruiting two community college students; one from Triton College and one from Waubesa, both are Hispanic serving institutions, as well as a teacher, an in-service current practicing teacher from the region, and two graduate students work as a team and they go to Estonia and they do field research and laboratory research and then they come back, they just returned a week ago, and then they'll continue doing research throughout the academic year. We just finished our first cohort and my role in this project is to mentor the teacher and also to support the evaluation and education research to try to understand how this team works, how to engage community college students in early research experiences. They have very limited science training prior to this. We want to use this as a recruitment tool into the STEM fields. In closing, I wanted to give you a framework for how I envision the work that I do at NIU. I think that all of the work I do – the end game of all of it is student success and persistence. From the one side when you do STEM education research your goal is to improve classroom practice and I start with my own classroom and I start with my research and then I try to disseminate to my colleagues. And the end goal of that is not to just improve learning, but to make sure that our learning aligns with the skills that our students need to be successful in those careers. And then the other side of it and something that's particularly poignant for NIU students, as we grow the diversity of our institution, is figuring out ways to support students that come from a variety of backgrounds. I think that that's a particularly challenging issue in STEM. We have a significant equity gap and so we are engaged right now in doing research to understand how we can ameliorate the equity gaps and make our science departments reflective of the population of the US and also of the NIU student body. With that, I want to thank you for the opportunity to address you and tell you about the exciting work we're doing, and I'm open to any questions.

Rita Athas: Are there questions from any of the trustees?

Dennis Barsema: I have one. Dr. LaDue the million dollars that you received; congratulations that's awesome, over what period of time is that?

Dr. Nicole LaDue: It's a five-year grant.

Dennis Barsema: It's a five-year grant. Is it in even amounts over the five years or is it front loaded?

Dr. Nicole LaDue: It's not front loaded so we wanted to ramp up, so this year we have selected 12 scholars. I neglected to mention this. Each year we are selecting a set of scholars, half of those scholars will be juniors and seniors that are already at NIU. So, we're supporting them at the moment when things become the most challenging.

Dennis Barsema: Okay that was going to be my next question.

Dr. Nicole LaDue: And then the other half of the scholars are community college students that we're hoping to recruit here and we're trying to use that as a recruitment pipeline into our STEM fields. One of the big challenges our STEM students face is the fact that they're trying to manage jobs, sometimes fulltime jobs on top of being fulltime students, so we're hoping that this – the support is a lot of extra time for them to come to these peer meetings, but we're hoping to try to with the scholarship is reduce the amount of time they have to spend working at part-time jobs.

Dennis Barsema: And I assume there are milestones you need to reach in order to get the remaining monies or how does all that work.

Dr. Nicole LaDue: So actually, we have a little more time to prove ourselves than would seem.

We have five years to prove ourselves. We have the money for five years. I don't deeply understand how the money is released from NSF, but I believe on an annual basis.

Dara Little: I think this was an award that was funded up front. So we have the full million, but we do have a five-year project so of course you have to spread it out over the five years.

Dennis Barsema: Okay so we already have it.

Dr. Nicole LaDue: Yeah so, we have it, but then there's a track two and a track three. We are actually funded on the track two. NIU had money under a previous project similarly and there is another track beyond this that we can go for should we be hopefully successful.

Jerry Blazey: Just a comment on the mechanics. Generally, the agencies provide grants and you get the money and then you have to report at the end of it as opposed to a contract where you have to show progress. This happens to be a grant.

Veronica: I have a question. This is great. I really enjoyed your presentation. Thank you. The frameworks that you're using, I mean they're obviously really important in the STEM fields because of the attrition, but it seems to me that the frameworks you have and the approach you're taking is applicable to other disciplines as well and what is the plan to present what you've done to other departments so that they can also adopt a similar approach or apply for grants using that similar framework?

Dr. Nicole LaDue: Absolutely so there's many levels to answering your question and I think you know I immediately think from a research level that we are engaging with a collaborator in the College of Education Daryl Dugas and he helps us incorporate frameworks from educational psychology to make sure that our research is relevant beyond just the STEM fields, but in terms of how to convey that to other departments, my sense is that in many respects other, maybe I'm speaking out of turn here, but other departments at NIU are farther beyond where we are in the STEM departments. Does that make sense? So if you work in the Social Sciences you're very aware of social science issues and so I'm not saying that's free of problems, but I think one of the challenges as you become a scientist is that you don't have a lot of the engagement with social issues that you would necessarily have as a social scientist and so I think that part of what we're doing is actually catching up to what's going on in other fields.

Jerry Blazey: Trustee Herrero you're sort of anticipating something we've been thinking about and that's pulling together an interdisciplinary or a university wide center to do research across all the disciplines and apply the lessons.

Lisa Freeman: You may remember that in the fiscal 20 presidential goals, which I think we all recognize are really university goals, we talk about identifying immersing research initiatives that could form strong research centers and foci and certainly our choice of having Professor LaDue present here was in part because we suspect there may be a proposal coming.

Rita Athas: Any additional questions? Thank you so much for your presentation.

## **OTHER MATTERS**

Rita Athas: Are there any other matters that need to come before this committee?

## **NEXT MEETING DATE**

Rita Athas: Our next meeting date is November 14, 2019.

## **ADJOURNMENT**

Vice Chair Rita Athas asked for a motion to adjourn. Trustee Eric Wasowicz so moved and Trustee Montel Gayles seconded. The motion was approved.

Rita Athas: The meeting is adjourned.

Respectfully submitted,

Jessica Cima/Karen Campbell  
Recording Secretary

*In compliance with Illinois Open Meetings Act 5 ILCS 120/1, et seq, a verbatim record of all Northern Illinois University Board of Trustees meetings is maintained by the Board Recording Secretary and is available for review upon request. The minutes contained herein represent a true and accurate summary of the Board proceedings.*

## CHANGE TO FULL-TIME TENURE REQUIREMENT

**Summary:** The Board of Trustee regulations require full-time appointments for tenure-track or tenured faculty. The full-time requirement limits the ability of the University to fully benefit from collaborations with other institutions and to recruit and retain faculty

**Background:** The Board of Trustee Regulations Section II: Faculty and Administrative Employees, Subsection A. Appointments, 12. Tenure, a. General Provisions states that “*Only faculty that hold full-time regular appointments at the rank of professor, associate professor, or assistant professor shall be eligible for tenure appointments.*” The full set of regulations can be found at <https://www.niu.edu/board/regs/index.shtml>.

The University research mission and reputation have been greatly strengthened by collaborations with the national laboratories, particularly Fermi National Accelerator Laboratory and Argonne National Laboratory. These collaborations generate outstanding research and educational opportunities for students, highly regarded publications, and significant external funding. Over the past decade, joint appointments with the laboratories have resulted in external funding totaling \$41M. At present, because of the fulltime requirement, the only joint tenured positions allowed require that NIU be the faculty member’s primary employer and that a partner, such as a laboratory, provide funding to NIU to support the faculty member. A similar arrangement, with a laboratory serving as the primary employer and NIU providing funding, does not allow for a tenured appointment at NIU. Incentivizing and maintaining laboratory-based appointments with the highly qualified and renowned staff of the laboratories would be greatly facilitated by the possibility of a tenured appointment at NIU.

As worded, the University regulations also do not support extended leave to tenured faculty. Accordingly, faculty are unable to benefit from appointments requiring leave; examples include appointments to other educational institutions, national academies or professional organizations, national laboratories, and state and federal agencies. More generally, the tenured status of faculty requiring extended leave for personal or family reasons can be called into question with the current regulation. Finally, the regulations are inconsistent with the implementation of phased retirement which, if instituted, would provide the university with flexible faculty staffing. Phased retirement would be particularly attractive for faculty with active research grants; the current regulations would require a faculty member to give up tenure to participate in a phased-retirement program.

Here is the updated language:

*Section II: Faculty and Administrative Employees*

*Subsection A. Appointments*

*12. Tenure*

*a. General Provisions*

*Tenure appointments shall be for an indefinite term and may be terminated only by (1) retirement, (2) acceptance of resignation, (3) demonstrable financial exigencies, (4) discharge for cause, or (5) the reduction or elimination of a department or similar academic unit. Only faculty that hold full-time regular appointments at the rank of professor, associate professor, or assistant professor shall be eligible for tenure appointments. Exceptions to the full-time appointment will be granted for phased retirement and for temporary leave and by the Provost*

*for formal joint appointments with external higher education, research, or clinical institutions. While a faculty member holding a contingent appointment with the rank of instructor shall not be eligible for tenure, service under that appointment shall count toward the probationary time period prior to a tenure decision. Employees holding other academic titles shall not be eligible for tenure but, with the concurrence of the university and the Board of Trustees, campus regulations may be adopted to safeguard the academic freedom of and provide reasonable job security for other faculty and teaching personnel.*

## STATE LEGISLATIVE REPORT

### Fall 2019 Legislative Engagement Overview

During the Fall 2019 semester, NIU hosted and attended a variety of legislative engagement opportunities including the following:

- **Second Annual Joint Caucus Breakfast with the University of Illinois.** In October, NIU and the University of Illinois hosted a joint breakfast with members of their respective legislative caucuses. At the event, President Lisa Freeman and President Tim Killeen discussed recent highlights from the campuses and the growing innovation partnership between the two universities. University leaders and staff engaged with just over a dozen supportive elected officials to discuss legislative priorities for the upcoming spring 2020 session and how we might be able to collaborate policy agenda efforts.
- **Legislative and Local Engagement in the Quad Cities.** In November, NIU joined U of I and the Illinois Connection at its final legislative breakfast event of the year in Moline, IL. Attendees included Congresswoman Cheri Bustos, members of the Quad Cities Chamber of Commerce and the Moline Foundation. President Lisa Freeman spoke about NIU's workforce development outcomes, innovative plans for the Northern Illinois Center for Community Sustainability (NICCS), leadership within the Illinois Innovation Network, and collaboration with the U of I System. Congresswoman Cheri Bustos and U of I President Tim Killeen also spoke, followed by a joint Q&A period.
- **Testimony before the House Appropriations – Higher Education Committee.** During the second week of Veto Session in November, NIU and its eight sister institutions were called to testify before the committee on the topic of 10-year institutional plans. NIU was represented by Provost Beth Ingram and Sol Jensen, Vice President for Enrollment Management and Marketing. Ingram and Jensen spoke to NIU's various strategic plans in place, including the Strategic Enrollment Management (SEM) plan, multi-year budgeting, strategies in place to reduce and eliminate achievement gaps, etc.
- **Three regional “Lunch and Learn with a Legislator” events.** The NIUAA Advocacy Committee, in partnership with the President's Office, hosted its second annual round of regional lunch and learn events in Chicago, Naperville and Rockford to discuss Illinois politics, alumni engagement and advocacy opportunities. Approximately 100 alumni attended the three events to engage with local elected officials and learn about ways in which they can get involved with the University and their state representatives. All three events provided a three-part panel discussion including:
  - An overview of Illinois' legislative session and policy creation from Dr. Matt Streb, Chief of Staff for NIU President Lisa Freeman,
  - An interactive Q&A session with State Senator and NIU Alumnus Cristina Castro (Chicago), former State Senator Matt Murphy (Naperville), Representative and NIU Alumnus Joe Sosnowski (Rockford) and Representative Maurice West (Rockford), and
  - A briefing on NIU's activities and presence in Springfield from Jenna Mitchell, NIU State Legislative Liaison. For the second semester, NIU has joined the Northern Illinois University Alumni Association's (NIUAA) advocacy committee in co-hosting luncheon events for NIU alumni and advocates to engage with local legislators.



## **2020 Illinois Public University Legislative Agenda**

For the first time in recent history, the nine public universities have come together to create a formal, joint legislative agenda including the following items.

### **Expanded Access for Students and Programs**

- Support for an increased annual budget appropriation for Illinois public higher education, including university operations
- Release of deferred maintenance capital funding from the FY20 Rebuild Illinois infrastructure package
- Increased investment in the Monetary Award Program
- Consistent support for the AIM HIGH scholarship program with the removal of cohort restrictions
- A new \$35 million grant to the Board of Higher Education for emergency completion grants and statewide bridge program support

### **Innovative Collaboration between Business and Education**

- Support the creation of an **Illinois University-Industry Innovation Vouchers program** to attract current Illinois businesses to collaborate with Illinois public universities and grow the creation of new marketable products and services through vital university-industry research collaboration in Illinois.
- Implement the **Illinois Prosper** program to attract new businesses to Illinois with the incentive of tax-free zones provided new businesses and start-ups create jobs on or near a university campus and partner with the universities for research and education opportunities.

### **Promote Operational Efficiencies and Reduced Administrative Burden**

- Procurement reforms to attract minority vendors, including the passage of legislation regarding Single Prime and Design Build (Rep. Kifowit, Sen. Hastings)
- Legislative remedies to address repeat audit findings
- Allow universities to enter into lease agreements beyond 10 years
- Exempt Illinois Public Universities from the Grants Accountability and Transparency Act (GATA)

### **Spring 2020 Engagement and Upcoming Events**

- **February 6:** Treasurer Michael Frerichs, President Lisa Freeman and the NIU Foundation co-hosted a forum on investing in Illinois' students on NIU's DeKalb campus regarding. Topics discussed focused on the idea of income sharing agreements (ISA's) and the Treasurer's Offices' new authority to invest in ISA's.
- **February 19:** Governor Pritzker's FY21 budget address.
- **February 26:** Joint public university advocacy day in Springfield with an evening reception at the Governor's Mansion.
- **April 1:** Save the date for the second annual NIU advocacy day in Springfield.

## **FEDERAL LEGISLATIVE REPORT**

This report covers the period of November 2019 through January 2020.

### **Appropriations**

#### *Fiscal Year 2020 Appropriations*

The Fiscal Year (FY) 2020 appropriations package was finalized in December 2019. Nearly all of NIU's programmatic priorities saw year-on-year increases and none were cut. Across the board there were increases to federal student financial aid programs such as the maximum individual Pell grant award increased by 2.4%, to \$6,345, and funding for the Federal Work Study program increased by 4.4%. Funding for NIU's federal research agency priorities also increased, for example the National Science Foundation saw a 2.5% increase, the Department of Energy's Office of Science, which includes Fermi National Accelerator Laboratory and Argonne National Laboratory in Illinois, saw a 6.3% increase, the National Institutes of Health saw a 6.7% increase, and the National Endowment for the Humanities saw a 4.7% increase.

#### *Fiscal Year 2021 Appropriations*

President Trump intends to release his Fiscal Year (FY) 2021 President's Budget Request (PBR) in February 2020. As with the past few years, the PBR is expected to propose cuts to many NIU priorities, and Congress is expected to reject those cuts. The FY2021 overall discretionary spending level was set during last year's budget negotiations and, if Congress adheres to that spending limit, spending on all non-defense discretionary programs (including all those named above) will only increase by \$2.5 billion, or less than 1%, over FY2020. Therefore, it is unlikely that we will continue to see flat or increased spending on NIU priorities in FY2021.

### **The Administration**

On January 2, the Senate confirmed Dr. Kelvin Droegemeier as the Director of the White House Office of Science and Technology Policy (OSTP). Dr. Droegemeier previously served as Vice President for Research at the University of Oklahoma. OSTP and the National Science and Technology Council have convened the Joint Committee on Research Environments (JCORE) to address the most pressing challenges facing America's research and scientific community, namely safe and inclusive research environments, rigor and integrity in research, research security, and reducing administrative burdens. NIU is engaging in these and other conversations with OSTP directly and through our associations.

Citizenship and Immigration Services (USCIS) posted a notice of proposed rulemaking (NPRM) that could potentially affect Title IV federal student aid program benefits. It would potentially also affect F-1 and J-1 visa applicants. Under the proposed rule, USCIS could restrict visas and green cards if public assistance benefits are received by a member of a noncitizen's household. USCIS has also posted a NPRM for proposed filing fee increases for certain immigration-related paperwork such as renewal applications for the Deferred Action for Childhood Arrivals (DACA) program.

The federal government has increased its scrutiny of foreign influence on university campuses. The latest agency to join this discussion is the Department of Education (ED). ED has ramped up its oversight and enforcement of Section 117 of the Higher Education Act regarding the disclosure of foreign gifts and contracts that meet certain reporting criteria. NIU is tracking this issue and

## **Congress**

Congress has focused much of its time and attention on passing FY2020 appropriations as well as investigating and impeaching President Trump. Considering the impeachment process and 2020 being a presidential election year, the legislative productivity of Congress is expected to slow down as the year progresses.

In December 2019, the FUTURE Act became law. The legislation permanently extends Higher Education Act Title III (F) funding for Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Minority Serving Institutions (MSIs) as well as allows the Internal Revenue Service (IRS) to share data with ED to simplify completing the Free Application for Federal Student Aid (FAFSA) and enrollment in income-driven repayment plans, and it increases funding for Pell grants. A related and more comprehensive reauthorization of the Higher Education Act, called the College Affordability Act, passed out of the House Education and Labor Committee on a party-line vote in October 2019. Policy merits aside, its price tag is estimated to be \$331.9 billion over ten years which makes it unlikely to gain traction and advance into law.

## **The Courts**

In November 2019, oral argument began in the US Supreme Court over the lawfulness of the DACA program. A decision is expected by June 2020.

## **Federal Engagement with NIU**

Recent and upcoming federal engagements with NIU include:

- December 9-10: Prof. Tao Xu Visited Capitol Hill and Agencies. At the invitation of Rep. Adam Kinzinger, Prof. Tao Xu represented the 16<sup>th</sup> congressional district at the Energy and Environment Innovation Showcase on Capitol Hill where he presented his research on clean energy technology. He also visited with program managers at the Department of Energy, the Advanced Research Projects Agency – Energy, and the National Science Foundation to discuss his research.
- January 30: VP Jerry Blazey Attends Meeting at White House. Vice President Jerry Blazey attended a meeting at the White House Office of Science and Technology Policy regarding federal policy on open access publishing of federally funded scientific research results.
- Planning for March 5-6: Student Trip to DC. Undergraduate Meghan Trentz, 2019-2020 Federal Relations Intern, plans to participate in federal-level meetings and attend the Council on Governmental Affairs quarterly meeting for the Association of Public and Land-grant Universities.
- Planning for March 8-12: NIU Spring Break Trip to DC. Fourteen NIU undergraduate students and Prof. Scot Schraufnagel will visit DC to learn about the federal government through touring federal buildings and meeting with federal officials from the legislative and executive branches.
- Planning for March 10-11: Pres. Freeman Visits Capitol Hill. President Freeman plans to visit Capitol Hill to meet with members of the Illinois congressional delegation.
- Planning for March 11: NIU Congressional Reception. Building on last year's success, NIU Federal Relations, the NIU Foundation, and the NIU Alumni Association are partnering on a congressional reception that will showcase five NIU faculty and build

relationships with our alumni, federal agency officials, IL congressional delegation, and key stakeholders in national science and education policy.

- Planning for March 11-12: Faculty Visit Agencies and Capitol Hill. Five NIU faculty plan to conduct meetings with federal program managers regarding their scholarship as well as staff-level meetings on Capitol Hill regarding federal investments in programs that support the research, education, and service mission of NIU.

## SPONSORED PROGRAM ADMINISTRATION QUARTERLY REPORT

For the first two quarters of FY20, Sponsored Programs Administration processed 82 awards totaling \$17.5 million (Figure 1). The decreases in total funding and in research funding relative to previous years are due to the nonrenewal of a large multi-year research contract and sponsor processing delays in releasing ongoing awards.

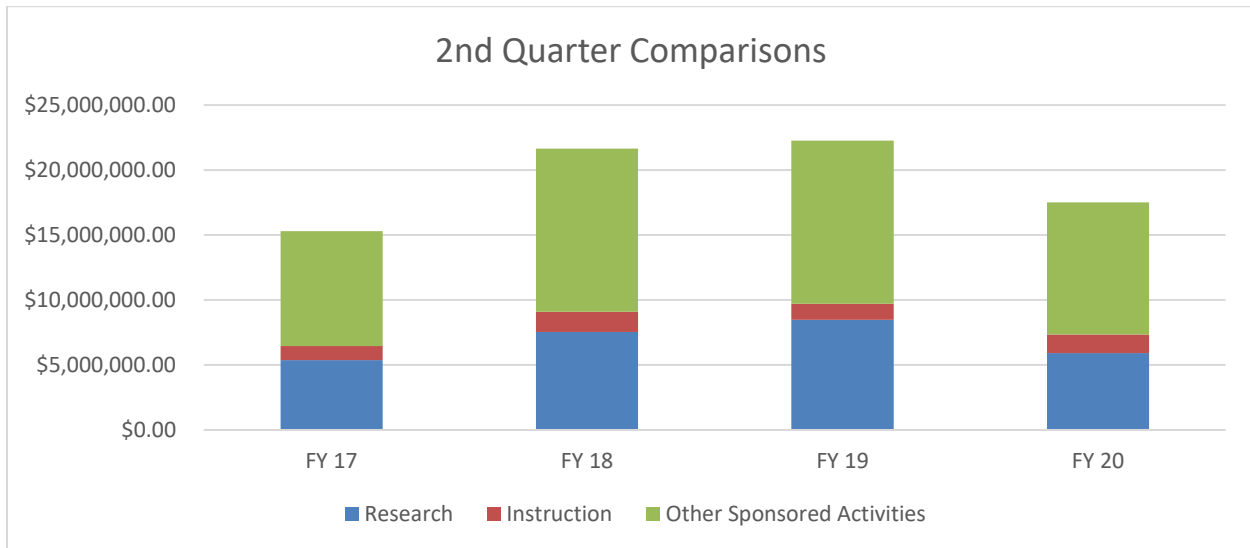


Figure 1

While funding from federal sources accounts for over 90% of our current year's sponsored funding, half of that amount is awarded to NIU through state agencies. Most of our direct federal funding is received from U.S. Department of State, U.S. Department of Education, and the National Science Foundation. Significant sources of federal funding through agencies located in Illinois include the Argonne National Laboratory and the Illinois Manufacturing and Extension Partnership. Funding directly from state agencies include awards from the Department of Children and Family Services and the Department of Healthcare and Family Services. On the following page, Table 1 provides a detailed listing of funding by program type and sponsor.

Table 1

<b>Program Type</b>	<b>Sponsor Name</b>	<b>Total</b>
Instructional Programs	DeKalb County Economic Development Corporation	\$13,500.00
	Econ Illinois	\$35,000.00
	Illinois Board of Higher Education	\$132,000.00
	Illinois State Board of Education	\$349,670.00
	Office of Special Education and Rehabilitative Services/Department of Education	\$841,053.55
	Public Financial Publications, Inc.	\$9,500.00
	Waubonsee Community College	\$46,170.00
<b>Instructional Programs Total</b>		<b>\$1,426,893.55</b>
Organized Research	American Society for Clinical Laboratory Sciences	\$783.60
	Argonne National Laboratory	\$889,426.11
	Columbia University	\$17,999.00
	Department of Agriculture	\$50,000.00
	Department of Energy	\$185,000.00
	Directorate for Education and Human Resources/NSF	\$593,406.00
	Directorate for Engineering/NSF	\$186,787.00
	Fermi National Accelerator Laboratory	\$37,214.27
	Harvard University	\$50,000.00
	Illinois Board of Higher Education	\$10,000.00
	Illinois Department of Public Health	\$147,000.00
	Illinois Institute of Technology	\$135,000.00
	Illinois Manufacturing Excellence Center	\$1,638,422.66
	Illinois State Board of Education	\$145,000.00
	National Aeronautics & Space Administration	\$35,981.72
	National Heart, Lung, and Blood Institute/NIH/DHHS	\$372,500.00
	National Institute of General Medical Sciences/NIH/DHHS	\$235,859.00
	National Institute of Standards & Technology/Technology Administration/DOC	\$125,942.00
	National Institutes of Health/NIH/DHHS	\$188,853.00
	National Science Foundation/NSF	\$46,000.00
	Northern Illinois Food Bank	\$5,286.15

	Northwestern University	\$50,736.00
	Office of Science/Department of Energy	\$101,000.00
	Pacific Rim Conservation	\$10,000.00
	Robert H. N. Ho Family Foundation	\$134,400.00
	School District # 205, Rockford	\$24,951.90
	Social Sciences and Humanities Research Council of Canada	\$4,544.94
	Sterling Medical Products	\$20,689.20
	University Corporation for Atmospheric Research	\$19,652.37
	University of Central Florida	\$78,930.00
	University of Illinois at Chicago	\$16,691.00
	University of Notre Dame	\$3,000.00
	Winnebago County	\$353,104.00
<b>Organized Research Total</b>		<b>\$5,914,159.92</b>
Other Sponsored Activities	Corporation for Public Broadcasting	\$220,735.00
	DeKalb County Community Foundation	\$2,500.00
	Department of State	\$329,990.00
	Futures Without Violence	\$17,504.65
	Illinois Arts Council	\$43,860.00
	Illinois Board of Higher Education	\$31,598.27
	Illinois Criminal Justice Information Authority	\$99,999.00
	Illinois Department of Children and Family Services	\$6,683,595.00
	Illinois Department of Healthcare and Family Services	\$1,695,577.28
	Illinois State Board of Education	\$115,436.00
	Illinois State Library	\$28,273.00
	Institute of International Education	\$59,254.00
	Institute of Museum & Library Services	\$250,000.00
	Occupational Safety and Health Administration/Department of Labor	\$99,431.00
	Office of Postsecondary Education/Department of Education	\$266,727.00
	Ohio University	\$172,847.00
	Winnebago County	\$67,819.15

<b>Other Sponsored Activities Total</b>		<b>\$10,185,146.35</b>
<b>Grand Total</b>		<b>\$17,526,199.82</b>

Funding across colleges and university units continues to track past patterns both for level and type of funding. (See Table 2 on page 5). Programs supported by these awards range from infusing STEM and business curricula in undergraduate sustainability education to providing high quality public radio programming in the northern Illinois region. A detailed listing of awards is provided at the end of this report.



**Table 2**

	<b>Research</b>	<b>Instruction</b>	<b>Other Sponsored Activities</b>	<b>Total</b>
College of Education	\$24,952	\$650,001	-	\$674,952
College of Engineering and Engineering Technology	\$200,536	-	-	\$200,536
College of Health and Human Sciences	\$587,782	\$349,670	\$269,227	\$1,206,679
College of Liberal Arts and Sciences	\$3,170,731	\$214,053	\$7,198,908	\$10,583,692
College of Visual and Performing Arts	\$50,000	-	\$7,900	\$57,900
Outreach, Engagement and Regional Development	\$195,736	\$35,000	\$2,195,412	\$2,426,148
Other Academic and University Units	\$1,684,423	\$178,170	\$513,699	\$2,376,292
<b>Total</b>	<b>\$5,914,160</b>	<b>\$1,426,894</b>	<b>\$10,185,146</b>	<b>\$17,526,200</b>

A separate measure of the university's research activity is the amount of sponsored and institutional funding spent on research. As discussed during the SPA August 2019 report to the Board, one industry measure widely used by U.S. universities and NIU is the Higher Education Research and Development (HERD) survey.

Since 2015, NIU has increased its position in the rankings moving from 274 to 255. Approximately 600 universities report to the survey. For the most recent reporting period, of Illinois institutions, NIU trailed only behind the University of Illinois system and Southern Illinois University – Carbondale but led in public universities without medical schools (see Table 3 on page 6). Based on preliminary data for FY 19, NIU will continue to see modest growth in R&D expenditures.

**Table 3**

<b>Institution</b>	<b>Rank</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
All institutions	-	68,550,653	71,750,973	75,184,396	79,285,866
U. Illinois, Urbana-Champaign	37	639,817	625,180	642,084	652,709
U. Illinois, Chicago	69	354,560	337,296	372,619	361,690
Southern Illinois U., Carbondale	198	57,509	53,172	48,416	49,636
Northern Illinois U.	255	17,722	21,225	19,150	23,280
Illinois State U.	266	18,742	20,408	20,080	21,055
Southern Illinois U., Edwardsville	275	19,051	18,780	17,393	18,420
Western Illinois U.	506	860	ne	2,006	2,466
Northeastern Illinois U.	509	ne	ne	1,403	2,442
U. Illinois, Springfield	519	2,070	1,683	2,900	2,164

NIU has increased its position in these rankings due to growth in sponsored research and more proactive reporting between university units of institutional expenses. Continued increases in survey rankings will require sustaining externally funded research and continued campus improvements in reporting. SPA is working with campus units to evaluate additional reporting enhancements and to streamline the reporting process.

## ALLIED HEALTH AND COMMUNICATIVE DISORDERS

DeKalb County Community Foundation for "Building Bridges: NIU students share music with adults living with sequelae of dementia/stroke." Jamie Mayer.

Award: \$2,500.00.

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

Funds are requested to bring evidence-based music programming to local residential facilities for adults, by training NIU students in a community-based service-learning context.

## ANTHROPOLOGY

University of Central Florida for "SocialSim Modeling / Repast HPC Programming Support." John Murphy.

Award: \$78,930.00.

August 1, 2019 - December 10, 2019. (Organized Research) Applied Research.

This project seeks to develop technologies for high-fidelity simulation of on-line social behavior (the spread and evolution of online information) while rigorously testing and measuring simulation accuracy.

## ART MUSEUM

Illinois Arts Council for "Art Museum Support." Josephine E. Burke.

Award: \$7,900.00.

September 16, 2019 - August 31, 2020. (Other Sponsored Activities) Public Service.

This award will support ongoing exhibits and operating costs for the NIU Art Museum.

## BIOLOGICAL SCIENCES

Department of Agriculture for "Identification of Regulatory Genes in *A. Flavus* that are Involved in Mycotoxin Production, Morphogenesis, and Virulence." Ana Calvo.

Award: \$50,000.00.

June 3, 2019 - June 2, 2021. (Organized Research) Applied Research.

The purpose of this project is to further the understanding of the signaling pathways involved in the production of mycotoxins, and fungal development and the role of VeA in fungal virulence.

Pacific Rim Conservation for "Review and Database Development of Worldwide Seabird Restoration Projects on Islands." Holly Jones.

Award: \$10,000.00.

July 1, 2019 - June 30, 2021. (Organized Research) Applied Research.

To conduct a global review of seabird restoration projects resulting in a dataset of seabird restoration techniques used on islands around the world. This dataset will allow greater knowledge transfer between those working toward seabird conservation.

National Aeronautics & Space Administration for "Chlorophyll d as a model for biosignature evolution." Wesley Swingley.

Award: \$35,981.72. (Cumulative \$107,942.00).

February 13, 2019 - February 12, 2020. (Organized Research) Basic Research.

To study phototrophic oxygen production both on Earth and exoplanets using the cyanobacterium *Acaryochloris* to assess how it extends the limits of oxygenic photosynthesis and how its photosynthetic apparatus performs at the minimum of water oxidation.

## CENTER FOR BURMA STUDIES

Institute of Museum & Library Services for "Burma Art Collection Rehousing Project." Catherine M. Raymond.

Award: \$250,000.00.

November 1, 2019 - October 31, 2021. (Other Sponsored Activities) Other.

Funds will be used for rehousing artifacts from the Burma Studies collection, in order to allow for more meaningful display and use of the collection by the university community.

#### CENTER FOR GOVT STUDIES

Illinois State Board of Education for "Centralized Demographic Database Administrator." Diana L. Robinson.

Award: \$48,817.00. (Cumulative \$119,617.00).

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

CGS will manage the Common Demographic Data Administrator for the multi-agency Illinois Longitudinal Data System.

#### CENTER FOR SOUTHEAST ASIAN STUDIES

Robert H. N. Ho Family Foundation for "Visiting Fellowship for Piphah Heng." Eric A. Jones.

Award: \$134,400.00.

September 30, 2019 - September 29, 2021. (Organized Research) Applied Research.

Purpose of the funding is to support a visiting fellow in southeast Asian studies.

Department of State for "PYLP: Engaging Young Advocates in Environmental Preservation and Peacebuilding." Rhodalyne Q. Crail/Eric A. Jones.

Award: \$329,990.00. (Cumulative \$579,990.00).

September 17, 2018 - December 31, 2020. (Other Sponsored Activities) Public Service.

Exchange program bringing teenagers and adult educators from the Philippines to the U.S. for exposure to/training in civic education, leadership, diversity, and community engagement, and preparation to conduct projects at home that serve a community need.

#### CENTER FOR THE STUDY OF FAMILY VIOLENCE AND SEXUAL ASSAULT

Futures Without Violence for "Illinois Domestic Violence Co-Location Program - Program Assistant Contract." Julie L. Crouch.

Award: \$17,504.65.

May 1, 2019 - September 30, 2019. (Other Sponsored Activities) Public Service.

This contract is to add a Program Assistant to the Illinois Domestic Violence Co-Location Program (DVCLP). The purpose of the DVCLP is to improve child welfare interventions provided to families experiencing domestic violence.

Winnebago County for "Domestic Violence Homicide Prevention Demonstration Initiative (DVHPDI)." Julie L. Crouch, Joel S. Milner/Joseph Przybyla.

Award: \$353,104.00. (Cumulative \$953,403.00).

August 1, 2019 - July 31, 2020. (Organized Research) Applied Research.

This project will evaluate the implementation process and impact of the U.S. Department of Justice's Domestic Violence Homicide Prevention Demonstration Initiative.

#### CHEMISTRY AND BIOCHEMISTRY

Argonne National Laboratory for "Cycling stable electrode interfaces for lithium batteries with covalently bonded fluorocarbon monolayers." Tao Xu.

Award: \$10,675.98. (Cumulative \$40,369.00).

July 1, 2019 - June 30, 2020. (Organized Research) Applied Research.

The project will attempt to improve the cycling stability and reliability of high energy density electrode materials, and conceivably develop batteries that have at least a doubled lifetime compared with the current state-of-the-art.

Directorate for Engineering/NSF for "Collaborative Research: Design of a Novel Photo-Thermo- Catalyst for Enhanced Activity and Stability of Dry Reforming of Methane." Tao Li.

Award: \$186,787.00.

September 1, 2019 - August 31, 2020. (Organized Research) Basic Research.

To test the hypothesis that a catalyst can be designed for effective CO<sub>2</sub> (dry) reforming of methane (DRM) to produce syngas (CO and H<sub>2</sub>) that will enhance the conversion efficiency and catalyst stability compared with traditional thermal catalysts.

Argonne National Laboratory for "Li Joint Appointment NIU-ANL FY20." Tao Li.

Award: \$72,628.66.

August 16, 2019 - August 15, 2020. (Organized Research) IPA or Joint Appointment.

Funds are being used for a joint appointment between NIU and Argonne in support of Dr. Tao Li.

Argonne National Laboratory for "Investigating Solid State Battery Materials with X-ray Technique." Tao Li.

Award: \$141,022.35.

October 1, 2019 - September 30, 2020. (Organized Research) Applied Research.

The objective of this work includes: synthesis of inorganic-organic hybrid electrode; measurement of the structure of the hybrid material with X-ray technique; and understanding the relationship of structure of materials and battery performance.

Argonne National Laboratory for "Investigating the interfacial stability of battery materials." Tao Li.

Award: \$112,284.94. (Cumulative \$229,746.00).

September 1, 2019 - September 30, 2019. (Organized Research) Applied Research.

Objectives include fundamental understanding of the nature, quantitative measurement of the kinetics, and interfacial engineering of Li-ion battery material for rational suppression of the parasitic reactions for a safer and longer life chemistry.

Argonne National Laboratory for "Material Development for Energy Efficiency and Renewable Energy Applications." Tao Xu.

Award: \$16,543.49.

July 1, 2019 - December 31, 2019. (Organized Research) Applied Research.

The purpose of this project is to prepare, characterize, and improve new materials for energy efficiency and environmental applications.

#### COMPUTER SCIENCE

Argonne National Laboratory for "High Performance Computing Research." Michael Papka.

Award: \$42,363.22. (Cumulative \$192,361.00).

August 16, 2019 - August 15, 2020. (Organized Research) Applied Research.

The funds support research and development in high performance computing, including visualization and analysis of abstract datasets based on ALCF operational logs, quantum computing algorithms, and dashboard development for monitoring of systems.

Argonne National Laboratory for "High Performance Computing Research." Michael Papka.

Award: \$69,397.03. (Cumulative \$192,361.00).

August 16, 2019 - August 15, 2020. (Organized Research) Applied Research.

The funds support research and development in high performance computing, including visualization and analysis of abstract datasets based on ALCF operational logs, quantum

computing algorithms, and dashboard development for monitoring of systems.

Argonne National Laboratory for "Predicting Scientific Fields using Machine Learning and Text Mining Techniques." Hamed Alhoori.

Award: \$41,116.75.

September 6, 2019 - September 5, 2020. (Organized Research) Applied Research.

This research will use machine learning and text mining techniques to improve our understanding of projects that use Argonne National Laboratory machines.

#### CONTINUING PROF EDUC

Occupational Safety and Health Administration/Department of Labor for "Susan Harwood Training Program 2019-2020: Targeted Training Program." Petia S. Guerrero.

Award: \$99,431.00.

September 30, 2019 - September 29, 2020. (Other Sponsored Activities) Public Service.

Targeted Training topic will be machinery and machine guarding covering subjects related to operating and using stationary equipment, guarding point of operation, amputation prevention, control circuit systems and other machinery the general industry.

#### ECON ILLINOIS

Econ Illinois for "Illinois Council Operation Grant." Luanne K. Mayorga.

Award: \$35,000.00.

July 1, 2019 - June 30, 2020. (Instructional Programs) Instructional Programs.

Funding is being used to support outstanding teacher training and innovative economic education programs for students.

#### EDUCATION SYSTEM CENTER

Illinois State Board of Education for "Intergovernmental Grant Agreement Fiscal Year 2020." Jonathan Furr.

Award: \$7,500.00.

August 15, 2019 - September 17, 2019. (Other Sponsored Activities) Public Service.

The grantee will prepare a proposal to the Institute of Education Sciences on behalf of the Illinois State Board of Education (ISBE) to support Illinois Statewide Longitudinal Data System.

Illinois State Board of Education for "Early Childhood Needs Assessment Cost Modeling and Unduplicated Count Scope and Deliverables." Charles Rosemond.

Award: \$145,000.00.

June 18, 2019 - December 31, 2019. (Organized Research) Applied Research.

This project will match child-/family-level data across state agencies' systems to describe the population receiving publicly funded early childhood services and produce a cost model analyses and developed options for phase-in of funding modifications.

#### EDUCATIONAL TECHNOLOGY, RESEARCH AND ASSESSMENT

School District # 205, Rockford for "Scientific Argumentation in Transportable Invention Space (SAITIS) 2.0 in Rockford School District." Pi-Sui Hsu.

Award: \$24,951.90.

October 1, 2019 - May 31, 2020. (Organized Research) Applied Research.

The purpose of the project is to develop and implement an after-school science program that incorporates Maker Education and scientific argumentation for middle-school students.

#### ENVIRONMENTAL STUDIES

Directorate for Education and Human Resources/NSF for "Collaborative Research: Broadening

the fusion of STEM and business curricula in undergraduate sustainability education." Melissa E. Lenczewski.

Award: \$593,406.00.

October 1, 2019 - September 30, 2024. (Organized Research) Applied Research.

To catalyze change in the way faculty and institutions of higher education prepare all students to tackle the wicked problems of sustainability in the 21st century.

#### FAMILY AND CONSUMER SCIENCES

Illinois State Board of Education for "NIU Preschool for All Expansion." Thomas Pavkov.

Award: \$349,670.00. (Cumulative \$705,100.00).

July 1, 2019 - June 30, 2020. (Instructional Programs) Instructional Programs.

This project will enhance cohesive and comprehensive early learning opportunities for preschoolers in the DeKalb community.

Office of Postsecondary Education/Department of Education for "CCAMPIS 2018." Thomas Pavkov.

Award: \$266,727.00. (Cumulative \$683,621.00).

October 1, 2019 - September 30, 2020. (Other Sponsored Activities) Public Service.

This project allows the Child Development and Family Center to provide low-income student families with high-quality, campus-based childcare to allow the parents to seek higher education.

#### GEOGRAPHIC AND ATMOSPHERIC SCIENCES

University Corporation for Atmospheric Research for "Bringing back weather.niu.edu: A multifaceted server at Northern Illinois University." Victor Gensini.

Award: \$19,652.37.

July 15, 2019 - March 31, 2020. (Organized Research) Applied Research.

This proposal seeks to re-establish the online presence of <http://weather.niu.edu> as a cornerstone of community weather/climate data dissemination.

DeKalb County Economic Development Corporation for "DeKalb County Economic Development Corporation graduate internship." Philip P. Young.

Award: \$13,500.00.

August 15, 2019 - May 14, 2020. (Instructional Programs) Instructional Programs.

This project provides one Graduate Assistant to the DeKalb County Economic Development Corporation to provide research services of mutual benefit to NIU and the DCEDC.

#### GEOLOGY AND ENVIRONMENTAL GEOSCIENCES

Columbia University for "Participation of Reed Scherer on IODP Expedition 379." Reed P. Scherer.

Award: \$17,999.00. (Cumulative \$66,271.00).

August 23, 2019 - February 29, 2020. (Organized Research) Applied Research.

Research on International Ocean Discovery Program (IODP) Expedition 379 includes diatom paleontology on sediments recovered from drilling in the Amundsen Sea, Antarctica applying biostratigraphy, paleoenvironmental reconstruction and glacial geology.

#### GRADUATE SCHOOL

Waubensee Community College for "Graduate Student Placements at Waubensee Community College." Bradley G. Bond.

Award: \$46,170.00.

August 1, 2019 - May 15, 2020. (Instructional Programs) Instructional Programs.

This project provides three Graduate Assistants to Waubensee Community College to work under the Dean of Students in the areas of Student Affairs (two students), and the under the Athletics Manager to work with the Athletics Trainer (1 student).

Illinois Board of Higher Education for "Diversifying Higher Education Faculty in Illinois FY20."  
Bradley G. Bond.

Award: \$132,000.00.

July 1, 2019 - June 30, 2020. (Instructional Programs) Instructional Programs.

NIU will serve as Fiscal Agent for IBHE for FY 2019 in administering grants awarded by the Diversifying Higher Education Faculty in Illinois ("DFI") Program Board to fellows at the institution under the DFI Program.

National Science Foundation/NSF for "GRFP Holthuijzen, Wieteke Aste." Bradley G. Bond/Holly Jones.

Award: \$46,000.00. (Cumulative \$92,000.00).

July 1, 2019 - June 30, 2020. (Organized Research) Applied Research.

To determine the ecological impacts of invasive mice on MANWAR through measures of seed predation, seed preference, and plant and arthropod community composition both before and after mouse eradication and on islands with and without mice.

#### INDUSTRIAL AND SYSTEMS ENGINEERING

Sterling Medical Products for "Development of Equipment Validation and Verification Procedures." Purushothaman Damodaran.

Award: \$20,689.20.

September 1, 2019 - January 31, 2020. (Organized Research) Applied Research.

Development of Equipment Validation and Verification Procedures for small manufacturer.

University of Illinois at Chicago for "Biomechanical Evaluation of Exoskeletons during Patient Handling." Jaejin Hwang.

Award: \$16,691.00.

July 1, 2019 - June 30, 2020. (Organized Research) Applied Research.

Funds are requested to assess the efficacy of postural assist exoskeletons in reducing biomechanical stresses among caregivers during patient handling.

#### INTERNATIONAL STUDENT AND SCHOLAR SERVICES

Institute of International Education for "2019 Fulbright Gateway Orientation (Renewal)."  
Stephanie Brown.

Award: \$59,254.00.

April 1, 2019 - September 15, 2019. (Other Sponsored Activities) Public Service.

This program will orient foreign Fulbright students to the Fulbright program and community; the U.S. academic system; U.S. history, culture, and government; and develop skills for success as students and future leaders.

#### JOBS PLUS

Illinois Board of Higher Education for "Northern Illinois University FY2020 Cooperative Work Study." Chad Glover, Dosier, David.

Award: \$31,598.27.

July 1, 2019 - August 31, 2020. (Other Sponsored Activities) Student Service.

The purpose of the project is to provide valuable career-related work experiences to students that are applicable to their fields of study.



## MECHANICAL ENGINEERING

National Institute of Standards & Technology/Technology Administration/DOC for "Characterization and standardization of in-situ powder flow monitoring methods for directed energy deposition." Federico Sciammarella.

Award: \$125,942.00.

October 1, 2019 - September 30, 2020. (Organized Research) Applied Research.

Funds are requested to help NIST establish which measurement method would be the best to qualify powder flow monitoring for directed energy deposition in Additive manufacturing.

Fermi National Accelerator Laboratory for "Dark Matter Searches Employing Quantum Metrology." Iman Salehinia.

Award: \$37,214.27.

August 1, 2019 - December 31, 2020. (Organized Research) Applied Research.

Professor Iman Salehinia will mentor a graduate student in the design and analysis of components for dark matter searches employing quantum metrology.

## NORTHERN PUBLIC RADIO

Illinois Arts Council for "FY19 BSG-J." Staci Hoste.

Award: \$9,420.00.

September 15, 2018 - August 31, 2019. (Other Sponsored Activities) Public Service.

Funds are used for high quality public radio programming.

Illinois Arts Council for "FY19 OSG-U." Staci Hoste.

Award: \$8,560.00.

May 15, 2019 - August 31, 2019. (Other Sponsored Activities) Public Service.

Funds are used for high quality public radio programming.

Illinois Arts Council for "Public Radio & Television Operating Grant-WNIJ-FM." Staci Hoste.

Award: \$8,560.00.

May 15, 2019 - August 31, 2019. (Other Sponsored Activities) Public Service.

Funds are used for high quality public radio programming.

Corporation for Public Broadcasting for "2019 Radio Community Service Grant." Staci Hoste.

Award: \$220,735.00.

October 1, 2018 - September 30, 2020. (Other Sponsored Activities) Public Service.

Funds are used to support high quality public programming.

Illinois State Library for "Northern Illinois Radio Information Service (NIRIS)." Staci Hoste.

Award: \$28,273.00.

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

Funds are used to provide informational services for persons who cannot read conventional print due to visual or physical disability, and because individual libraries cannot provide such services.

Illinois Arts Council for "FY19 BSG-U." Staci Hoste.

Award: \$9,420.00.

September 15, 2018 - August 31, 2019. (Other Sponsored Activities) Public Service.

Funds are used to support high quality public radio programming.

## NOT FOR PROFIT NONGOVORGS

Illinois Department of Healthcare and Family Services for "Electronic Health Record (EHR) Systems and Meaningful Use -Illinois Health Information Technology Regional Extension Center

(ILHITREC)." Lisa Kaye Bergeron.

Award: \$1,695,577.28.

December 1, 2019 - November 30, 2021. (Other Sponsored Activities) Other.

This project will increase awareness, adoption, implementation, and meaningful use of Electronic Health Records with HFS Medicaid providers in Illinois with the goal of decreasing cost and improving health outcomes.

#### NURSING

National Institutes of Health/NIH/DHHS for "Feasibility of group versus individual self-management of depression using a mobile app, to increase treatment adherence among Dominican primary care patients." Susan Caplan.

Award: \$188,853.00.

September 1, 2019 - August 31, 2020. (Organized Research) Applied Research.

The proposed research project will examine using a mobile app to deliver group-based CBT for depression treatment in a primary care setting in the Dominican Republic.

Illinois Board of Higher Education for "IBHE Nursing Fellowship--FY 2020." Elizabeth Moxley.

Award: \$10,000.00.

December 10, 2019 - June 30, 2020. (Organized Research) Applied Research.

Funding will provide a fellowship for a faculty member in the School of Nursing.

#### P-20 CENTER

Illinois State Board of Education for "FY 20 Migrant Education - Regular Year." Susana Das Neves/Amy Jo Clemens/Adam Zurko.

Award: \$59,119.00.

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

To ensure that migrant children fully benefit from the same free public education provided to other children and to address the special educational needs of migrant children to better enable them to succeed academically.

#### PHYSICS

Argonne National Laboratory for "Development of a damping-ring-free electron injector for Future Linear Colliders." Phillippe R. Piot.

Award: \$8,000.00. (Cumulative \$12,000.00).

June 1, 2019 - May 31, 2020. (Organized Research) Basic Research.

The purpose of the project is to finalize the conceptual design of a GeV-class electron injector capable of attaining electron bunch with the required properties without having to rely on the currently envisioned 6-lm-long damping ring parameters.

Argonne National Laboratory for "Xiao Joint Appointment NIU-ANL FY20." Zhili Xiao.

Award: \$118,812.81.

August 16, 2019 - August 15, 2020. (Organized Research) IPA or Joint Appointment.

Funds are being used for a joint appointment between NIU and Argonne in support of Dr. Zhili Xiao.

Illinois Institute of Technology for "Chicagoland Accelerator Science Traineeship." Michael Syphers/Piot, Phillippe R.

Award: \$135,000.00.

September 25, 2019 - September 24, 2020. (Organized Research) Basic Research.

Funds are requested to establish the proposed "Chicagoland Accelerator Science Traineeship".

Office of Science/Department of Energy for "Ultrafast X-ray spectroscopy on nonequilibrium systems." Michel A. Van Veenendaal.

Award: \$30,000.00.

September 15, 2019 - September 14, 2020. (Organized Research) Basic Research.

The goal of this project is to describe the time-dependent X-ray spectroscopy of nonequilibrium phenomena, such as spin crossover and ultrafast phase transitions.

Argonne National Laboratory for "High pressure effects on nitrogen-vacancy centers in diamond." Zhili Xiao/Fotovvat, Roxanna.

Award: \$41,464.53. (Cumulative \$71,465.00).

October 1, 2019 - September 30, 2020. (Organized Research) Applied Research.

Develop a novel instrument that will enable high-sensitive magnetization measurements in diamond anvil cell (DAC) by incorporating NV centers into diamond pieces of the DAC and using microwave to excite the NV centers and optically detect the resonance.

Department of Energy for "High-current electron sources for superconducting radiofrequency injectors." Phillippe R. Piot/Venumadhav Korampally/Iman Salehinia.

Award: \$110,000.00. (Cumulative \$272,001.00).

September 25, 2019 - September 24, 2020. (Organized Research) Applied Research.

Funds are requested to explore the coupling of a high-current electron source to a superconducting accelerator with ultimate goal of forming electron beams with Mega-Watt average power.

Argonne National Laboratory for "Support for a Visiting Professor Andrey Varlamov in NIU's Physics Department." Andreas Glatz.

Award: \$20,860.00.

November 1, 2019 - December 6, 2019. (Organized Research) Applied Research.

Professor Varlamov is a world-leading scientist on superconducting fluctuations and the direct collaboration with him will be useful for future research at NIU and Argonne.

Office of Science/Department of Energy for "High-Performance Electron Sources: Numerical Methods and Beam Dynamics at the Precision Frontier." Bela Erdelyi.

Award: \$71,000.00.

September 25, 2019 - September 24, 2020. (Organized Research) Basic Research.

Funds are requested to develop an efficient and accurate numerical method to fix the boundary layer instability and devise an indirect method for very low emittance and temperature measurements based on caustics of multi-beamlet expansion.

Department of Energy for "Nonlinear Dynamics of Integrable Hamiltonian Systems for Novel Particle Accelerators in High Energy Physics." Bela Erdelyi.

Award: \$75,000.00. (Cumulative \$75,000.00).

July 1, 2019 - June 30, 2020. (Organized Research) Basic Research.

The project will undertake a comprehensive investigation of the dynamics of nonlinear integrable Hamiltonian systems for particle accelerators in high energy physics, with a special emphasis on the Integrable Optics Test Accelerator (IOTA) at Fermilab.

Argonne National Laboratory for "Synthesis, Single Crystal Growth and Diffraction Studies of Multiferroic and Functional Oxides." Omar H. Chmaissem.

Award: \$36,817.20. (Cumulative \$72,727.00).

September 1, 2019 - August 31, 2020. (Organized Research) Applied Research.

This proposal aims to develop the know-how and the precise control of design variables for new multiferroic materials and related functional oxides.

University of Notre Dame for "The Quarknet Project." Dhiman Chakraborty.

Award: \$3,000.00.

September 1, 2018 - August 31, 2019. (Organized Research) Basic Research.

The purpose of this project is to involve high school teachers and their students in state-of-the-art research that seeks to resolve some of the mysteries about the structure of matter and the fundamental forces of nature.

Argonne National Laboratory for "High Performance Computing (Support for Tsezar Seman)." Michel A. Van Veenendaal.

Award: \$15,507.68.

August 1, 2019 - September 30, 2019. (Organized Research) Applied Research.

The postdoctoral associate will work on computations using high-performance computing in relation to spin crossover phenomena in iron complexes, related to time-dependent X-ray spectroscopy, and finish the submission of manuscript related to his research.

Argonne National Laboratory for "Glatz Joint Appointment NIU-ANL FY20." Andreas Glatz.

Award: \$141,931.47.

August 16, 2019 - August 15, 2020. (Organized Research) IPA or Joint Appointment.

Funds are being used for a joint appointment between NIU and Argonne in support of Dr. Andreas Glatz.

## PSYCHOLOGY

Social Sciences and Humanities Research Council of Canada for "Parent Engagement in the Learning of Children with ADHD." Julia Ogg.

Award: \$4,544.94.

April 1, 2019 - March 31, 2020. (Organized Research) Applied Research.

This project will examine the reciprocal relationships between parent engagement and child ADHD symptoms, and how these relationships influence academic and social-emotional outcomes over time.

Illinois Department of Children and Family Services for "Integrated Assessment Program FY20." Laura D. Pittman/Skarbek, Matthew.

Award: \$6,683,595.00.

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

Funds support the Integrated Assessment (IA) Program, which provides clinical screening and assessment services to children under the care of DCFS in the northern, central, and southern IA Program regions.

Office of Special Education and Rehabilitative Services/Department of Education for "Project Prevent and Address Bullying (PPAB) for Students with Disabilities: A Multitiered Behavioral Framework." Christine E. Malecki/Michelle Demaray/Julia Ogg.

Award: \$191,053.00. (Cumulative \$1,163,439.00).

September 1, 2019 - August 31, 2020. (Instructional Programs) Instructional Programs.

The proposed project will prepare 24 highly-qualified, licensed school psychologists with specialized training (a) emphasizing prevention of bullying, especially with students with disabilities; and (b) improving student outcomes by decreasing bullying.

Illinois Criminal Justice Information Authority for "Saving blue lives through training on mental health, suicide, resilience, and peer support." Michelle M. Lilly.

Award: \$99,999.00.

July 1, 2019 - June 30, 2020. (Other Sponsored Activities) Public Service.

The award supports development and dissemination of trainings for law enforcement in Illinois. The trainings focus on reducing risk for PTSD and suicide through better recognition of signs and symptoms, and bolstering resilience and peer support.

National Heart, Lung, and Blood Institute/NIH/DHHS for "Sex-specific mechanisms of exercise underlying resilience to social stress." Angela Grippo.

Award: \$372,500.00.

December 1, 2019 - November 30, 2022. (Organized Research) Applied Research.

This project uses an animal model to investigate the protective effects of exercise against negative behavioral, biological, and brain consequences of social stress.

Winnebago County for "Research and Evaluation of the Winnebago County Adult Drug Court Program." Julie L. Crouch.

Award: \$67,819.15. (Cumulative \$134,559.00).

September 30, 2019 - September 29, 2020. (Other Sponsored Activities) Public Service.

NIU will serve as the primary research partner/local evaluator for the Winnebago County Adult Drug Court Enhancement Project.

#### PUBLIC ADMINISTRATION

Public Financial Publications, Inc. for "An Educator Version of Balancing Act." Kurt Thurmaier.

Award: \$9,500.00.

July 1, 2019 - June 30, 2020. (Instructional Programs) Instructional Programs.

The goal of this project is to fund specific enhancements to a new public budgeting simulation so that it can be used for teaching public budgeting and financial management courses.

#### REGIONAL DEVELOPMENT INSTITUTE

Northwestern University for "Great Lakes Practice Transformation Network." Lisa Kaye Bergeron.

Award: \$50,736.00. (Cumulative \$1,324,749.00).

September 29, 2019 - December 28, 2019. (Organized Research) Applied Research.

NIU will build off its existing work with the Illinois Health Information Technology Regional Extension Center (IL-HITREC) in developing relationships with medical practices to help them achieve clinical transformation.

#### SCHOOL OF ART AND DESIGN

Harvard University for "Cohen Fellowship at Hutchins Center for African & African American Research, Harvard University." Sinclair Bell.

Award: \$50,000.00.

August 16, 2019 - May 31, 2020. (Organized Research) Basic Research.

The aim of this research project is to write a book-length study of black Africans in the visual and material culture of imperial Rome.

#### SCHOOL OF HEALTH STUDIES

American Society for Clinical Laboratory Sciences for "Reducing Medical Errors: Perceptions of Collaboration with a Doctor of Clinical Laboratory Science." Leah Ames.

Award: \$783.60.

August 27, 2019 - August 26, 2020. (Organized Research) Applied Research.

This project will explore the perceptions that clinicians have about medical laboratory professionals as a resource for ordering and interpreting diagnostic laboratory testing and how those perceptions change after collaborating with a DCLS.

Northern Illinois Food Bank for "Research and Outreach at the Northern Illinois Food Bank."  
Josephine Umoren.

Award: \$5,286.15. (Cumulative \$52,139.00).

September 1, 2019 - August 31, 2020. (Organized Research) Applied Research.

NIU will provide consultation for the Northern Illinois Food Bank related to research and nutrition education program implementations.

#### SCHOOL OF INTERDISCIPLINARY HLTH PRF

National Institute of General Medical Sciences/NIH/DHHS for "The FoodMASTER Initiative: Supporting the STEM learning pipeline for underserved, minority youth through informal science learning environments." Melani Duffrin.

Award: \$235,859.00. (Cumulative \$473,374.00).

August 1, 2019 - July 31, 2020. (Organized Research) Applied Research.

This project investigates the impact of the FoodMASTER (Food, Math, and Science Teaching Enhancement Resource) Initiative on attitudes towards science among underserved minority youth in southern states to impact the health professions STEM pipeline.

Illinois Department of Public Health for "Illinois Behavioral Risk Factor Surveillance System (IL-BRFSS)." Kathryn Mazurek.

Award: \$147,000.00.

September 30, 2019 - December 31, 2019. (Organized Research) Applied Research.

Data collection, data management, reporting and technical support on the Illinois Behavioral Risk Factor

#### SPECIAL AND EARLY EDUCATION

Office of Special Education and Rehabilitative Services/Department of Education for "Preparation of Vision Rehabilitation Therapists and Orientation & Mobility Specialists to Prepare Individuals with Visual Disabilities for the 21st Century Workplace." Stacy Kelly.

Award: \$150,000.55. (Cumulative \$150,001.00).

October 1, 2019 - September 30, 2020. (Instructional Programs) Instructional Programs.

The purpose of the project is to train vision rehabilitation therapists (VRT) and orientation and mobility (O&M) instructors to provide services for adults and transition-aged adults with visual disabilities.

Office of Special Education and Rehabilitative Services/Department of Education for "Project Fusion: Bringing Together Scholars in Teacher of the Visually Impaired and Orientation and Mobility Programs to Serve Children with Visual Impairments in the 21st Century Classroom." Stacy Kelly.

Award: \$250,000.00. (Cumulative \$500,000.00).

August 15, 2019 - August 14, 2020. (Instructional Programs) Instructional Programs.

The purpose of this program is to train graduate students as special education teachers and orientation and mobility specialists to serve the needs of children who are blind or visually impaired with high-intensity needs in preschool through 12th grade.

Office of Special Education and Rehabilitative Services/Department of Education for "Preparing New Teachers of Students with Visual Impairments and Existing Personnel with Certifications in Assistive Technology for the 21st Century Workforce." Stacy Kelly/Tikkun, Sean.

Award: \$250,000.00. (Cumulative \$1,000,000.00).

May 2, 2019 - May 1, 2020. (Instructional Programs) Instructional Programs.

The purpose of this program is to train undergraduate and graduate students as teachers and assistive technology instructors to serve the needs of children who are blind or visually impaired in preschool through 12th grade.

#### UNIVERSITY LIBRARIES

Ohio University for "LuceSEA with CORMOSEA/UM." Hao N. Phan.

Award: \$172,847.00. (Cumulative \$172,847.00).

June 6, 2019 - June 5, 2020. (Other Sponsored Activities) Other.

Funding will help to strengthen digital collections on Southeast Asian studies through the documentation of Cham religious rites, digitization of selected palm leaf manuscripts, and development and updating of online language and cultural materials.

#### VP RESEARCH AND INNOVATION PARTNERSHIPS

Illinois Manufacturing Excellence Center for "Illinois Manufacturing Excellence Center Sub-recipient Contractual Amendment FY2020." Gerald C. Blazey.

Award: \$1,638,422.66.

October 1, 2019 - September 30, 2020. (Organized Research) Applied Research.

The purpose of this project is to perform research services directed toward increasing the productivity and global competitive advantage of regionally-based manufacturing and technology-related firms.

## FACULTY PRESENTATION

### Fall 2016 Sabbatical Leave Outcome Report Reed Scherer, Department of Geology & Environmental Geosciences

For my Fall semester, 2016 NIU sabbatical I was invited to Columbia University's Lamont-Doherty Earth Observatory, New York, as a Visiting Senior Scientist. My primary goal for the sabbatical was to prepare a manuscript reporting the most significant new finding of the NSF-funded WISSARD project (funding to Profs. Powell and myself). The project sought to evaluate West Antarctic ice sheet stability and history by drilling through a half mile thick ice, with extensive field work in 2013 and 2015 and laboratory research that followed. Our most surprising result from the project was the widespread occurrence of geologically very young sediment (as shown by radiocarbon analysis) beneath the ice. This result indicated that at the end of the last Ice Age, 10,000 years ago, the ice sheet retreated more than anyone had previously suggested, then began to regrow. This result demonstrated previously unknown dynamic ice sheet behavior, including a surprising resilience.

We knew that our findings and interpretations, while robust and confirmed, would be met with considerable skepticism in peer review, presenting a difficult writing challenge. Skeptical peers might choose to dismiss our result as somehow incorrect, simply because it was so surprising. But my sabbatical opened the door toward publication of a very high-profile publication in *Nature*, the single most prestigious and competitive science journal (Impact Factor of 43.070, acceptance rate of 7.7%).

During my sabbatical, I gave a talk on our new findings at Columbia University, during which a young Assistant Professor nearly jumped out of his seat, because he had come to an identical, controversial conclusion based on an entirely different kind of dataset, from the other side of West Antarctica. Coincidentally, a new computer modeling effort by Dr. Torsten Albrecht of the Potsdam Institute for Climate Research in Germany also displayed the same comparable, surprising result. We decided that rather than each group trying to write up our independent (controversial) stories, we would join forces for maximum impact. Condensing each of our complex research into a single short paper posed a significant challenge, but the end result was a paradigm-shifting 2018 paper in *Nature* magazine (Kingslake et al., 2018). This paper still maintains an Altmetric Score of 263, ranking it in the 99<sup>th</sup> percentile of published scientific articles. Kingslake, Scherer and Albrecht are co-lead authors, along with NIU colleagues Ross Powell, Nathan Stansell and Ph.D. candidate Jason Coenen and others (I suggested that the Assistant Professor be lead author).

This paper, the prestige it carries, the impact on junior scientists, including an NIU graduate student, the considerable media attention it garnered, and the subsequent research and funding that followed would never have happened were it not for my NIU sabbatical at Columbia University! During the sabbatical I also gave colloquium presentations at 4 other universities in the Northeast, was awarded a research grant from the Columbia University Foundation, and was interviewed by numerous science journalists stemming from another paper published at that time (Scherer et al., 2016). The entire experience highlights the rewards of the years-long investment and persistence needed to shepherd a scientific publication to print. Such achievements are made possible by sabbatical research travel and interdisciplinary approaches in research and instruction, all of which pay dividends back to NIU.



## BIOGRAPHICAL SKETCH — REED P. SCHERER

Department of Geology & Environmental Geosciences  
Northern Illinois University, DeKalb, IL 60115  
815-753-7951 reed@niu.edu

### A. PROFESSIONAL PREPARATION

<u>Institution</u>	<u>Major</u>	<u>Degree &amp; Year</u>
The Ohio State University	Geological Sciences	Ph.D., 1992
University of South Carolina	Geological Sciences	M.S., 1983
Southampton College, NY	Marine Geology	B.S., 1979

### B. POST-DOCTORAL APPOINTMENTS

Northern Illinois University (2000-present)

- Board of Trustees Professor (2013-2017; 2018-2022)
- Distinguished Research Professor (2013-present)
- Associate Director, Institute for the Study of the Environment, Sustainability & Energy (2013-2018)
- Director, Institute for the Study of the Environment, Sustainability & Energy (2011-2012)
- Interim Associate Dean for Research and Graduate Affairs (2010-2011)
- Presidential Research Professor (2008-2013)
- Professor, Geology and Environmental Geosciences (2007)
- Associate Professor, Geology and Environmental Geosciences (2003)
- Assistant Professor, Geology and Environmental Geosciences (2000)

Uppsala University, Sweden (1994-2000); Quaternary Geology

- Research Associate Professor (1998-2000)
- Research Assistant Professor (1994-1998)

University of Massachusetts Amherst (1993-1994); Research Assistant Professor, Dept. of Geosciences

The Ohio State University, Columbus (1992-1993); Senior Research Associate, Byrd Polar Research Center

### C. SELECTED PEER-REVIEWED PAPERS (of >75 reviewed; 40 edited; 205 abstracts)

\*NIU Graduate Students

- \***Coenen, J., Scherer, R.,** Baudoin, P., Warny, S., Castañeda, I., and Askin, R. Paleogene marine and terrestrial development of the West Antarctic Rift System. *Geophysical Research Letters*. <https://doi.org/10.1029/2019GL085281>.
- Kingslake, J., **Scherer, R.,** Albrecht, T., \***Coenen, J.,** Powell, R., Reese, R., Stansell, N., Tulaczyk, S., and Whitehouse, P., 2018. Extensive retreat and re-advance of the West Antarctic Ice Sheet during the Holocene. *Nature*, <https://doi.org/10.1038/s41586-018-0208-x>. (\*co-lead authors). *Altimetric* 263 (99<sup>th</sup> %).
- Scherer, R.P.,** DeConto, R., Pollard, D. and Alley, R.A. 2016. Windblown Pliocene diatoms and East Antarctic Ice Sheet retreat. *Nature Communications*. <http://dx.doi.org/10.1038/NCOMMS12957>. *Altimetric* 209 (98<sup>th</sup> %).
- \***Warnock, J.P. and Scherer, R.P.,** 2016. Increased diatom dissolution in Prydz Bay, East Antarctica linked to inception of the Prydz Bay gyre. *Diatom Research*, 31(2), pp.161-168.
- \***Hodson, T.O.,** Powell, R.D., Brachfeld, S.A., Tulaczyk, S. and **Scherer, R.P.,** 2016. Physical processes in Subglacial Lake Whillans, West Antarctica: Inferences from sediment cores. *Earth and Planetary Science Letters*, 444, 56–63. DOI:10.1080/0269249X.2016.1182075
- \***Warnock, J., Scherer, R. and \*Konfirst, M.,** 2015. A record of Pleistocene diatom preservation from the Amundsen Sea, West Antarctica with possible implications on silica leakage. *Marine Micropaleontology*. 117, 40-46.

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- D. GRANTS** >\$9.8 M generated in collaborative and solo grants from both federal (mostly NSF) and private foundations

#### **E. SYNERGISTIC ACTIVITIES**

**Ongoing public outreach activities:** Promote polar research and science literacy at annual [NIU STEMfest](#), which reaches up to 10,000 visitors each year. Numerous print and broadcast media interviews, mostly regarding recent scientific publications. Frequent contributor to on-air radio editorial series, [Perspectives](#), on NPR Affiliate WNIJ, often covering issues of science, education and climate. STEM and science outreach activities for elementary, middle school and high school students, to professional societies and the general public, related to environmental and sustainability awareness, global and Antarctic climate change, dinosaur paleontology and evolution (15 formal events over the past 5 years, other informal events). Co-developed and co-organize the bi-annual Green Lens Environmental and Social Justice Film Series in DeKalb, IL, showing free environmental documentary films with special guests and panel discussions. Frequently serve on discussion panels.

**Advisory Councils, Program Development and Editorial Boards:** IODP Science Evaluation Panel (2018-2021). Participant in [NEXT](#) (Scientific Drilling Beyond 2023) workshop, 2019. Co-editing special issue of *Marine Micropaleontology* on polar marine diatom research. NIU UC, Governance Council. NIU Graduate School Curriculum Committee. NICCS. Lead developer of the interdisciplinary NIU Institute for the Study of the Environment, Sustainability and Energy (ESE) and ENVIS undergraduate program, now serves >150 majors; served as ESE Director.

**Short-courses and Workshops:** Taught the next generation of ocean drilling scientists at the SCAR-PAIS-IODP Antarctic School, College Station, TX, 6/2019. With Drs. Amy Leventer and Beth Caissie, organized, hosted and taught polar diatom science to 35 students from 12 countries at the international Polar Diatom Workshop, Iowa Lakeside Laboratory, 8/2018, with support from a grant from IODP and the Micropaleontology Society.

**Professional Societies:** Phi Beta Delta International Honor Society; American Geophysical Union; International Society for Diatom Research

#### **F. ADVISOR TO CURRENT NIU GRADUATE STUDENTS**

Jason Coenen (Ph.D. in progress, MS, 2016)  
 Joe Mastro (M.S. in progress)  
 Heather Furlong (M. S. in progress)

#### **G. PAST Ph.D. ADVISEES AT NIU**

Jonathan Warnock (2016)  
 Matthew Konfirst (2015)  
 Joseph Peterson (2012)  
 Matthew Olney (2009)