

Research and Graduate Studies ANNUAL REPORT 2020



Message from the associate vice president



It gives me great pleasure to provide the annual report for fiscal year 2020. This annual report primarily presents facts and figures, which do not do justice to the incredible efforts put forth by the people behind those numbers. That effort was even more herculean during the spring and summer of 2020, when the coronavirus (COVID-19) global pandemic changed the way we participated in our scholarship and creative activities. There are many things to be proud of from the 2019-20 academic year, not the least of which is the way our community came together in ways that these numbers cannot capture.

The work of the Office of Research and Graduate Studies described here was led by Dr. John E. Baur, who returned to the faculty of the Chemistry Department at the conclusion of FY20. I look to continue his leadership of our strategic efforts for the University. Several activities were points of pride from the previous year, including:

- continued supplemental funding for university research grants (URGs), the main source of internal support for faculty research;
- a revamped web presence for research at ISU;
- participation in helping secure approximately \$42M in external funding to projects for FY20 and beyond;
- work with the University Research Council to create a research seminar series to be held in the 2020-2021 academic year around the theme of water research;
- consolidation of all of Research and Sponsored Programs and Research Ethics and Compliance into one single location in College Place Uptown;
- hiring of a director for strategic partnerships to improve relations with corporations and other external constituencies, and increase sponsored programs; and
- celebration of the first year of the Office of Student Research, including new student research support fellowships and an Image of Research competition.

In addition to my new role, FY21 brings the leadership of our new vice president for Academic Affairs and Provost, Dr. Aondover Tarhule. Stay tuned for future initiatives and directions in the coming months. Some efforts already underway will continue, including:

- formation of the Illinois State University Hub of the Illinois Innovation Network, a group of public universities working together to improve the state's economy though innovation, research, and education;
- continued planning for our start-up incubator for students, faculty, and community members to be located in Uptown Normal and anticipated to open in 2021;
- planning for a maker-space for students, faculty, and community members;
- improved coordination of services in grant support and administration;
- working with other campus units toward the creation of the Faculty Success Center in Milner Library.

As an experimentalist, I believe in asking many questions as well as continuous improvement in processes. I welcome your feedback along with ideas and suggestions. Together we can continue to make progress.

Craig C. McLauchlan

Associate Vice President for Research and Graduate Studies Professor of Chemistry McLauchlan@IllinoisState.edu

Research and Graduate Studies

Departments

Research and Sponsored ProgramsJason Wagoner, Senior Director

Research Ethics and Compliance Kathy Spence, Director

Graduate School

Dr. Noelle Selkow, Interim Director

Centers

Stevenson Center for Community and Economic Development

Dr. Frank Beck, Director

Center for Mathematics, Science, and Technology CeMaST,

Dr. Rebekka Darner, Director

Cross Chair in the Scholarship of Teaching and Learning

Dr. Jen Friberg

Center for Collaborative Studies in Mathematical Biology

Dr. Olcay Akman, Director

Center for a Sustainable Water Future

Dr. Joan Brehm and Dr. Noha Shawki, Directors

Office of Student Research

Dr. Gina Hunter, Director

Outstanding University Researchers

The Outstanding University Researcher Award recognizes faculty whose research is acknowledged at the national or international level for its quality and contribution to the profession or discipline.

ANDREW HARTMAN, DEPARTMENT OF HISTORY

Andrew Hartman is a professor in the Department of History, where he teaches courses in U.S. history, the philosophy of history, and teaching methods. Hartman received his Ph.D. in history from the George Washington University in 2006. His first book, Education and the Cold War: The Battle for the American School, was published in 2008. Hartman's second book, A War for the Soul of America: A History of the Culture Wars, was published by the University of Chicago Press in 2015 and has been widely reviewed in venues ranging from The Wall Street Journal and The New Republic to Reviews in American History. A second edition of that book with a new conclusion was published in 2019. Hartman is co-editor of American Labyrinth: Intellectual History for Complicated Times, published by Cornell University Press in 2018. He is at work on another monograph, Karl Marx in America, contracted to be published by the University of Chicago Press.

Hartman is the winner of two Fulbright Awards. He was the Fulbright Distinguished Chair in American Studies at the University of Southern Denmark in 2013-2014, and he was the Fulbright British Library Eccles Center Research Scholar in 2018-2019. He is an Organization of American Historians Distinguished Lecturer for the 2015-2021 period. Hartman was also the founding president of the Society for U.S. Intellectual History, and he wrote for the society's award-winning blog from 2007 until 2018. He has been published in a host of academic and popular venues, including the Washington Post, Baffler, Chronicle of Higher Education, Journal of American Studies, Reviews in American History, Salon, and Jacobin. He co-hosts a podcast dedicated to history titled "Trotsky and the Wild Orchids."

Hartman is from Denver and is married to Erica Hartman. They have two sons, Asa (11) and Eli (9).

JOHN SEDBROOK, SCHOOL OF BIOLOGICAL SCIENCES

Dr. John Sedbrook is a professor of genetics in the School of Biological Sciences, having earned his Ph.D. in genetics at the University of Wisconsin-Madison and performed postdoctoral research at the Carnegie Institution at Stanford University. Sedbrook's research uses cutting-edge molecular methods including CRISPR gene editing to improve plants for their use in generating biofuels, food, feed, and industrial products. Sedbrook has secured millions of dollars in federal and private funding and published in prestigious scientific journals,

including *Science and Nature*. He was a founding member of the Department of Energy's Great Lakes Bioenergy Research Center, which receives \$25 million annually to perform basic and translational research aimed at breaking barriers to generating liquid biofuels economically and sustainably. Sedbrook and students in his laboratory have been leaders in domesticating pennycress as an oilseed-producing cash cover crop to be grown throughout the 80 million-acre U.S. Midwest cornbelt and beyond. Pennycress has the potential to produce billions of gallons of edible oil annually suitable for conversion to biofuels and millions of tons of seed meal for feed, food and other uses, forming the basis of an economically and environmentally sustainable, multi-billion dollar per year industry benefiting rural communities.

University Research Initiative Awards

The University Research Initiative Awards are presented to faculty who, within their first five years at Illinois State University, have initiated a promising research agenda early in their academic careers.

Matthew Aldeman, Department of Technology

Tenley Banik, Department of Geography, Geology, and the Environment

Jennifer Barnes, Family and Consumer Sciences

Ashley Farmer, Criminal Justice Sciences

Daniel Lannin, Department of Psychology

Alice Lee, Teaching and Learning

Taeok Park, Department of Communication Sciences and Disorders

Scott Pierce, School of Kinesiology and Recreation Lindsey Thomas, School of Communication

Outstanding University Creative Activity Awards

This award is given for outstanding creative work. Creative contributions include but are not limited to the following: painting, sculpture, film, drama, musical composition, choreography of a dance, poetry, a novel, creative nonfiction, and creative media programming. The contribution(s) must have been recognized in the field as having national and/or international significance. This award is not designed to recognize a single major work, but consistent and sustained contributions to the profession, discipline, and field.

MELISSA ORESKY, WONSOOK KIM SCHOOL OF ART

Melissa Oresky is a professor of painting and drawing at ISU. Her art practice is rooted in painting and collage, and her pri-



mary production is mixed media works on canvas and paper. Oresky is interested in landscape and considers it as a concept that bridges painting, lived experience, environmental consciousness, and imagination. Working fluidly between abstraction and representation, past work has focused on aspects of or locations within landscape, including glaciers, deserts, formal gardens, mineral structures, the colors of daylight, and the kinesthetic experience of viewing the ground or the sky while moving. Her current work is focused broadly on plants. While looking at plants as direct subject matter for artworks, she also enacts what could be considered a "plantlike" process in the studio by "growing" paintings or collages through iterative processes over long periods of time. Her studio activities consider other aspects of plant "being" such as reflecting, filtering, and absorbing light to produce color and creating and reacting to material, atmospheric, and spatial conditions. Oresky often takes over a year to complete a piece, while working on many ongoing pieces in the studio at once. She wants her work to convey the aliveness of plants, which humans tend to regard as objects rather than fully living organisms.

Oresky has shown her work in painting, collage, and video nationally and internationally, with recent shows at Tripod Space Project, Busan, South Korea; Hyde Park Art Center, Chicago; Elmhurst Art Museum, Elmhurst; Minnesota State University, Mankato; and K. Imperial Fine Art, San Francisco. She also co-organized and participated in the project Collage Office, an experimental, charitable platform for artists to make work for visitors by appointment at The Franklin, Chicago.

Oresky holds a BFA from the School of the Art Institute of Chicago, and an MFA from the University of Illinois at Chicago. She has attended residencies including Skowhegan School of Painting and Sculpture, Maine; and The Santa Fe Art Institute, New Mexico. Originally from Maryland, she lives and works in Normal.

CARL SCHIMMEL, SCHOOL OF MUSIC

Praised by *The New York Times* as "vivid and dramatic," the music of Dr. Carl Schimmel is dense with literary and musical references, often humorous, and combines intensity of expression with a structural rigor that is influenced in part by his mathematics background. In weaving his musical narratives from poetry, art, and even unusual words, he strives to

construct emotional and culturally complex sound worlds that excite the listener's imagination.

Winner of a 2018 Guggenheim Fellowship, Columbia University's Joseph Bearns Prize, the Lee Ettelson Award, a 2018 Commission from Harvard University's Fromm Foundation, and the 2017 Goddard Lieberson Fellowship from the American Academy of Arts and Letters, Schimmel has received honors and awards from many organizations. These include the MacDowell Colony, Yaddo, Copland House, New Music USA, and ASCAP. His works have been performed in Carnegie Hall's Weill Hall, Merkin Hall in New York, Severance Hall in Cleveland, the National Arts Centre in Ottawa, St. Martinin-the-Fields in London, Orchestra Hall in Minneapolis, and at other venues throughout North America, Europe, Australia, and Asia. He has received performances and commissions from the American Composers Orchestra, the Minnesota Orchestra, the Buffalo Philharmonic Orchestra, California EAR Unit, the Left Coast Chamber Ensemble, Alarm Will Sound, the Louisiana Philharmonic, the New England Philharmonic, the Mexico City Woodwind Quintet, and many others. Recordings of his music are available on the Albany Records, New Focus Recordings, Arizona University Recordings, Navona Records, Blue Griffin, and Crescent Phase labels.

A doctoral graduate of Duke University, Schimmel completed a master's degree in music at the Yale School of Music. He earned a bachelor's degree in mathematics and music at Case Western Reserve University. An associate professor of music theory and composition, he is co-director of the RED NOTE New Music Festival at ISU. He lives in Grinnell, Iowa, with his wife Mariko and their two children, Otto and Thora.

Creative Activity Initiative Award

This award recognizes faculty who have initiated promising creative productivity early in their academic careers. Creative contributions include but are not limited to the following: painting, sculpture, film, drama, musical composition, choreography of a dance, poetry, a novel, creative nonfiction, and creative media programming.

Ladan Bahmani, Wonsook Kim School of Art

Research and Service Centers

Illinois State University operates 10 research and service centers that have been authorized by the Illinois Board of Higher Education (IBHE). The centers are recognized by the IBHE for their contributions regionally, state-wide, and nationally through research, support for public policy development and evaluation, or direct service to the constituents each has been organized to serve. Each center is briefly described below. For more complete information, including each center's purpose and initiatives, visit the center website.

ADLAI STEVENSON II CENTER FOR COMMUNITY AND ECONOMIC DEVELOPMENT

AKA: Stevenson Center

Approved by IBHE: October 2, 2001

Contact: Dr. Frank Beck, Faculty Director; Beverly Beyer,

Associate Director

Location: Stevenson Hall 435

Reports to: Office of the Vice President for Academic Affairs

and Provost

Website: StevensonCenter.org

CENTER FOR CHILD WELFARE AND ADOPTION STUDIES

Approved by IBHE: June 7, 2005 Contact: Dr. Doris Houston, Director

Location: Rachel Cooper 203 Reports to: School of Social Work

Website: AdoptionResearch.IllinoisState.edu

CENTER FOR COLLABORATIVE STUDIES IN MATHEMATICAL BIOLOGY:INTERCOLLEGIATE BIOMATHEMATICS ALLIANCE

AKA: IBA

Approved by IBHE: June 6, 2017 (temporary status through

June 30, 2022)

Contact: Dr. Olcay Akman, Executive Director

Location: Stevenson Hall 313, Department of Mathematics Reports to: Office of the Vice President for Academic Affairs

and Provost

Website: About.IllinoisState.edu/iba/pages/default.aspx

CENTER FOR INSURANCE AND RISK MANAGEMENT

AKA: Katie School

Approved by IBHE: January 5, 1993 Contact: James Jones, Director

Location: State Farm Hall of Business 432

Reports to: College of Business

Website: Business.IllinoisState.edu/katie

CENTER FOR MATHEMATICS, SCIENCE, AND TECHNOLOGY

AKA: CeMaST

Approved by IBHE: July 1, 1997 Contact: Dr. Rebekka Darner, Director Location: Campus Religious Center

Reports to: Office of the Vice President for Academic Affairs

and Provost

Website: Cemast.IllinoisState.edu

CENTER FOR THE STUDY OF EDUCATION POLICY

AKA: CSEP

Approved by IBHE: February 8, 1995 Contact: Dr. Lynne Haeffele, Director Location: Degarmo Hall, Third Floor

Reports to: Department of Educational Administration and

Foundations

Website: Education.IllinoisState.edu/csep

CENTER FOR TEACHING, LEARNING, AND TECHNOLOGY

AKA: CTLT

Approved by IBHE: January 7, 1997

Contact: Dr. Jennifer Friberg, Interim Director

Location: Instructional Technology and Development Center Reports to: Office of the Vice President for Academic Affairs

and Provost

Website: ctlt.IllinoisState.edu

MARY AND JEAN BORG CENTER FOR READING AND LITERACY

AKA: Borg Center

Approved by IBHE: October 2, 2001

Contact: Dr. Deborah MacPhee, Interim Director

Location: DeGarmo Hall, Third Floor Reports to: School of Teaching and Learning Website: <u>Education.IllinoisState.edu/borg</u>

NATIONAL CENTER FOR URBAN EDUCATION

AKA: Chicago Teacher Education Pipeline

Approved by IBHE: August 31, 2016 (temporary status through

September 30, 2021)

Contact: Dr. Maria Luisa Zamudio-Mainou, Executive

Director

Location: 2934 West Lake Street, 3rd Floor, Chicago

Reports to: College of Education Website: <u>ncue.IllinoisState.edu</u>

RADIO STATION WGLT

AKA: WGLT

Contact: R.C. McBride, General Manager

Location: Old Union Building 301 Reports to: School of Communication

Website: WGLT.org

Illinois State University also operates numerous centers and institutes not officially recognized by the IBHE. These additional centers primarily support academic programs or student services at the University, or provide services locally or regionally. Information regarding those additional centers and institutes can be found on websites of the College of Applied Science and Technology, College of Arts and Sciences, College of Business, and College of Education.

Applied Social Research Unit

Center for the Advancement and Support of Educational Initiatives

Center for Civic Engagement

Center for the Study of Crime and Justice

Center for a Sustainable Water Future

Eckelmann-Taylor Speech and Hearing Clinic

Illinois Center for Specialized Professional Support

Illinois Geographic Alliance

Institute for Corruption Studies

Institute for Financial Planning and Analysis

Institute for Geospatial Analysis and Mapping (GEOMAP)

Institute for Regulatory Policy Studies

Stanley S. Marzolf Center for the Psychological Assessment and Treatment of Children and Adolescents (The Psychological Services Center)

George R. and Martha Means Center for Entrepreneurial Studies

Mind Project

Organizational Leadership Institute

Professional Sales Institute

Carson and Iris Varner International Business Institute

CONTACT INFORMATION

Dr. Craig C. McLauchlan

Associate Vice President for Research and Graduate Studies (309) 438-3006

Email: ccmclau@IllinoisState.edu

Email: jccutti@IllinoisState.edu

Dr. J. Cooper Cutting Assistant Vice President for Academic Planning (309) 438-2922

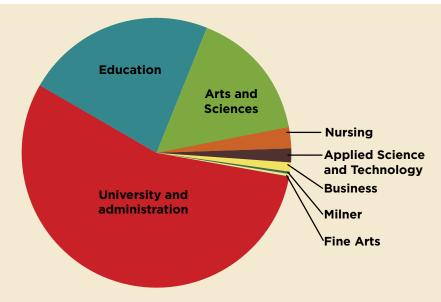
2020 Million Dollar Club Inductees

The Million Dollar Club was established in 1990 by President Thomas Wallace and Provost David Strand "to recognize grant/contract productivity by members of the ISU community." After inducting the 2018 class, ISU moved to a biennial cycle. Inductees will be announced in Fall 2020 and included in the Fiscal Year 2021 Annual Report. For a list of previous inductees, visit the ISU Research page at Research.IllinoisState.edu/funding/awards/million.

Awards

Total amount awarded by college

Applied Science and Technology \$708,773
Arts and Sciences\$6,744,205
Business\$500,000
Education\$9,543,525
Fine Arts\$40,100
Milner\$454,651
Nursing\$1,196,825
University and administration \$23,256,813
Total\$42,444,892



GradBird Scholars

One challenge all researchers must overcome is how to explain their work to a general audience. The Graduate School launched the GradBird Scholar initiative in September 2019 in an effort to make scholarly research more accessible while honoring the scholarship of Illinois State students.

A committee of graduate students, faculty, and staff select each month a new GradBird Scholar from a cohort of students who self-nominate for the award. Submissions are judged on the quality of the research and how clearly it is explained. The winners receive a monetary award and are highlighted in a video shared on social media. Last year, about a dozen students submitted nominations each month. The following seven individuals were recognized as GradBird Scholars.

September 2019: Mallorie Latora, master's student, School of Communication

October 2019: Kara Cicciarelli, doctoral student, Department of Psychology

November 2019: Ian Rines, doctoral student, School of Biological Sciences

December 2019: Samantha Croney, master's student, Department of Psychology

February 2020: Austin Calhoun, master's student, School of Biological Sciences

March 2020: Joel McReynolds, master's student, Stevenson Center for Community and Economic Development and Department of Politics and Government

April 2020: Jacob Styan, master's student, Department of Agriculture

Graduate Enrollment

Overall	araduata	enrollment	

2015	2 200	2016	2 206	2017	2.454	2018	2 520	2019	2 620
2015	2,380	2010	2,390	201/	2,454	2018	2,528	2019	2,028

College Enrollment

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	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Applied Science and Technology	372	366	370	370	379
Arts and Sciences	851	803	821	868	841
Business	167	192	190	233	266
Education	560	606	629	615	656
Wonsook Kim College of Fine Arts	149	143	146	139	147
Mennonite College of Nursing	127	120	133	123	130
Office of the Provost	154	166	165	180	209
Total	2 380	2 306	2.454	2 528	2 628

Degrees conferred

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Applied Science and Technology	138	308	274	236	221
Arts and Sciences	271	331	299	290	301
Business	125	98	107	99	99
Education	130	179	185	165	205
Wonsook Kim College of Fine Arts	51	54	52	44	62
Mennonite College of Nursing	24	37	43	36	43
Total	739	1,007	960	870	931

Graduate Assistants

Fall 2019 Spring 2020 Administrative Operational .124 Administrative Operational .127 Pre-Professional .116 Pre-Professional .112 Research .242 Research .253 Teaching .456 Teaching .447 Practicum .63 Practicum .59 Grand Total .998

Image of Research Inaugural Competition

In an effort to spur student researcher creativity and promote student research within and beyond campus, students were invited to submit one static image of their research, along with a brief description of how the image represents their work. Submissions were evaluated by external jury.

- 46 entries from graduate and undergraduate students
- 8 students presented awards
- Awardees were featured online at www.StudentResearch.IllinoisState.edu.

Total student awards: \$1,750



The winning entry *Just a Little Light Reading* by Bret Williams

Undergraduate Research Support Program (URSP)

The Undergraduate Research Support Program (URSP) was established for faculty-mentored student research projects from any discipline. All URSP grantees were invited to participate in an online student research community and professional development workshop series.

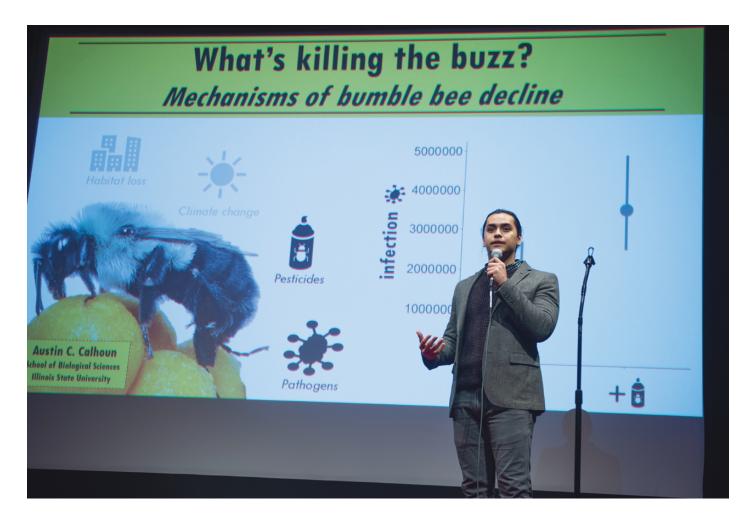
- Summer 2020 Competition
 - 34 applicants from College of Arts and Sciences, College of Applied Science and Technology, College of Education,
 College of Business, and Wonsook Kim College of Fine Arts
 - 19 awards made
- Academic year 20/21 Competition—impacted by Covid-19 campus closure
 - 6 applicants from College of Arts and Sciences, College of Applied Science and Technology, and College of Education
 - 6 awards made

Total support for student research grants awarded: \$27,000

Faculty Development

The Center for Teaching, Learning, and Technology offered an 18-hour summer institute on Course-Based Undergraduate Research Experiences (CURES) in the social sciences and humanities.

- 13 faculty participated
- CUREs learning community continues



3 Minute Thesis

Biology student creates buzz by winning top awards at Three Minute Thesis competition

School of Biological Sciences master's student Austin C. Calhoun '17 pulled off in Febuary the same trick that a former biology student accomplished. Calhoun won first prize and the People's Choice award at the Illinois State University Graduate School's Three Minute Thesis (3MT) competition.

Calhoun became the second competitor after Dr. Kristin Duffield '12, Ph.D. '18, to sweep the top awards in the event's four-year history.

"It's pretty exciting. This is a really fun event. I'm really excited by the amount of people that came out and showed their support," Calhoun said. Nearly 200 people packed the Normal Theater for the event. Calhoun's two-and-half-a-minute presentation focused on how pesticides are contributing to the decline of native bumblebees.

"Specifically my thesis work investigates how unintended exposure to pesticides, while not killing the bees directly, may worsen the effects of pathogenic infection to the detriment of bumblebee health," he said from the stage. "This prediction stems from the idea that allocating energy toward detoxifying these pesticides from the body will come at a cost to mounting an effective immune response against infection. ... Moreover, immediate action is essential if we consider that the loss of these pollinators equates to the loss of one-third of every bite you take."

The fourth annual competition pitted 10 graduate students against each other to determine who could best explain their research to a general audience in 3 minutes or less.

The crowd voted on the People's Choice award, while four judges selected the first- and second-place winners. Calhoun received \$750 for each award and qualified for the Midwest Association of Graduate Schools' competition.

Submissions and Awards by College and Department/School

	No. of Proposals	Amount Requested	No. of Awards	Amount Received
College of Applied Science and Technology				
Agriculture	13	\$2,342,963	5	\$68,792
Criminal Justice Sciences	5	\$1,561,016	-	-
Family & Consumer Sciences	1	\$5,000	-	-
Health Sciences	4	\$738,827	-	-
Information Technology	6	\$ 4,153,283	-	-
Kinesiology & Recreation	3	\$237,020	1	\$4,981
Technology	3	\$834,429	1	\$635,000
Total College of Applied Science and Technology	35	\$9,872,538	7	\$708,773
College of Arts and Sciences				
Applied Social Research Unit	-	-	1	\$166,900
Biological Sciences	20	\$18,693,726	8	\$1,290,086
Chemistry	13	\$8,722,409	7	\$3,545,057
College of Arts & Sciences	-	-	1	\$1,565
Comm. Sciences & Disorders	1	\$170,730	-	-
Communication	6	\$395,775	2	\$159,737
English	4	\$122,769	1	\$1,000
Geography, Geology & Environ.	7	\$777,005	4	\$294,076
Mathematics	9	\$1,228,324	3	\$400,000
Physics	4	\$806,305	6	\$208,670
Politics & Government	2	\$178,658	1	\$78,049
Psychology	4	\$435,065	4	\$399,065
Social Work	2	\$199,999	2	\$200,000
Total College of Arts and Sciences	72	\$31,730,765	40	\$6,744,205
College of Business				
Finance, Insurance, & Law	1	\$136,278	-	-
Katie School of Ins. and Risk Mgmt	1	\$39,998	_	-
Management & Quant. Methods	1	\$488,997	1	\$500,000
Total College of Busines	3	\$665,273	1	\$500,000

	No. of Proposals	Amount Requested	No. of Awards	Amount Received
College of Education				
College of Education	2	\$77,468	_	-
Ed. Admin. & Foundations	18	\$22,685,224	13	\$7,208,367
Special Education	7	\$2,263,671	8	\$2,260,650
Teaching & Learning	11	\$875,626	3	\$73,000
Thomas Metcalf School	2	\$1,499	2	\$1,508
Total College of Education	40	\$25,903,488	26	\$9,543,525
College of Fine Arts				
Art	3	\$19,500	1	\$6,100
Music	2	\$5,500	2	3,200
Theatre	1	\$13,900	2	\$15,400
University Galleries	2	\$16,913	2	\$15,400
Total College of Fine Arts	8	\$55,813	7	\$40,100
Mennonite College of Nursing				
Mennonite College of Nursing	10	\$2,434,291	5	\$1,196,825
Total	10	\$2,434,291	5	\$1,196,825
Milner Library				
Milner Library	1	\$502,312	1	\$454,651
Total	1	\$502,312	1	\$454,651

