

University Research Committee 2023 – 2024 Annual Report

1. To encourage and promoted scholarship, research, and creative endeavors among all faculty members of the University.
2. Committee responsibilities include, in particular, the evaluation of applications for intramural research funds and the allocation of these funds among bargaining unit faculty members.
3. More generally, they include advising and making recommendations to the Chief Research Officer on practices and policies conducive to scholarly activity.

Membership

2021 – 2023 Faculty Appointments

Sara Arena (SHS) – Co-Chair

Michael Kranak (SEHS) – Co-Chair

Xia Wang (SECS)

Note that Drs. Arena, Kranak, and Wang agreed to extend their service term through the 2023 - 2024 AY. Further, Drs. Arena and Kranak agreed to serve as Co-Chairs for the 2023 – 2024 AY.

2022 – 2025 Faculty Appointments

Lakshmi Roman (CAS)

Scott Tiegs (CAS)

Hanna Kalmanovich-Cohen (SBA)

Olga Ehrilch (SON)

Vardan Karamyan (SOM)

Shawn Lombardo (UL)

2023 – 2026 Faculty Appointments

Valence Washington (CAS)

Ex-Officio Appointments

David Stone (Chief Research Officer)

Susan Willner (Research Office) Coordinator

Laura Beck (Research Office) Incoming Coordinator

Meetings and Actions

Nearly all URC business during the 2023 – 2024 AY was conducted online. Three synchronous meetings took place on September 25, 2023; October 23, 2023; and February 7, 2024. The Co-Chairs delivered an in-person workshop on the URC Fellowship Application on September 7, 2023.

Virtual meetings of the full URC focused on discussing cumulative proposal scores, developing consensus on award recipients, and discussing potential policy changes to better achieve the URC's stated goals. URC co-chairs would like to recognize the outstanding work of all URC members. Each member completed their tasks thoroughly and promptly, allowing URC meetings to proceed quickly and efficiently.

This year, the URC implemented an external review process for the Faculty Fellowship Applications. Rather than have the applications be reviewed by committee members, applications were sent to content-area experts who could provide relevant comments on the merit of the science and project proposed. The external reviewers provided scores on aspects of the applications based on criteria used by the NIH and adapted by the URC last year to be implemented this year. The external review process was overwhelmingly success. The funding decisions remained with the committee.

Recommendations and Considerations

The URC will continue to implement the external review process for the URC for the next several years, with continuing to review the process.

Towards the end of the year, in consultation with the Research Office, the Co-Chairs discussed increasing the reimbursement request amount for open access/journal reprints from \$500 to \$750. Given the end-of-year nature of the discussion, this recommendation was passed along to the incoming Co-Chairs and will be revisited during AY 2024 – 2025.

2024 – 2025 URC Leadership

At the February 2024 URC Meeting, Drs. Roman and Ehrlich graciously volunteered to serve as the Co-Chairs for the 2024 – 2025 AY. Drs. Arena and Kranak agreed to remain available for consultation to the Co-Chairs. Discussion was had to consider implementing a “Chair In Waiting” or “Incoming Chair” position, which will continue to be discussed during 2024 – 2025 AY.

Notes

The URC is eternally grateful to Sue Willner, without whom the URC could not function. Her expertise and diligence is invaluable, and she will be greatly missed. Sue is transitioning into a different capacity in the Research Office. The URC welcomes Laura Beck as the new Coordinator/Assistant for the URC.

Respectfully submitted,

Sara Arena, Associate Professor of Physical Therapy

Co-Chair, URC 2023-2024

Michael Kranak, Assistant Professor of Human Development and Child Studies

Co-Chair, URC 2023-2024

University Research Committee - FY24

	Amount
FY23 Balance Carried Forward	27,746
Budget FY24	370,000
Total Budget for FY24	\$397,746
Faculty Research Fellowship Awards	-330,000
Stipend Fringe Charge	-6,464
External Reviewer Gift, S&H	-4,273
Laptop rental for workshop	-50
Faculty Research Grant	-24,000
Faculty Books and Reprints	-1,542
Meadow Brook Hall Conference	-3,000
President Colloquium Series, \$1000 funded by the President	0
Faculty Research Excellence Award, \$2500 funded by the Provost	0
New Investigator Research Excellence Award, \$1500 funded by the Provost	0
URC Awards	-\$369,329
Carried Forward to FY25	\$28,417

Statistics	# Applied	# Awarde d	%
Faculty Research Fellowship Awards	45	33	73%
Faculty Research Grant	12	12	100%
Faculty Books and Reprints	4	4	100%
Meadow Brook Hall Conference	3	1	33%
President Colloquium Series	6	1	17%
Faculty Research Excellence Award	2	1	50%
New Investigator Research Excellence Award	3	1	33%
Total	75	53	71%

Faculty Research Fellowship Awards – \$10,000

- Alawneh, Shadi – Electrical and Computer Engineering, SECS
Efficient Algorithms for Conducting Power Flow Studies at Large Scales.
- Alsaman, Zeina – Economics, SBA
OPEC Oil News Shocks and U.S. Labor Market.
- Dantzler, Alta – Music, CAS
Contemporary Vocal Technique in Practice.
- DeVescovo, Daniel – Mechanical Engineering, SECS
Enabling Next-Gen Low-Carbon Alternative Fuels and Engines through Machine Learning.
- Deng, Xiaodong – Decision and Information Sciences, SBA
Measuring the Environment that Empowers Knowledge Workers' Security Practices.
- Dwyer, Erin – History, CAS
A Proposal to Fund Continued Research for a Second Book Project on Slavery and Poison in the United States and the Caribbean.
- Ehrlich, Olga – Nursing, SON
Pilot Feasibility Testing of a Guidebook and Case-Based Intervention for Faculty Knowledge Application in Teaching Primary Palliative Care Nursing.
- Fails, Matthew – Political Science, CAS
Identifying Executive Term Limit Violations and the Consequences for Democratic Survival.
- Freed, Joanne – English, CAS
From Becoming to Being Seen in Jeffrey Eugenides's Middlesex.
- Hu, Jun – Mathematics and Statistics, CAS
Enhancing A/B Testing Efficiency through Sequential Estimation.
- Jin, Man – Economics, SBA
What Do Unions Do to Firm Productivity?
- Jonutz, Thayer – Dance, CAS
Bringing Hammer and Nail to Costa Rica.
- Kennedy, Erin – School of Nursing, SON
Parental Mental Health: Experiences of the Postpartum Dyad.
- Khain, Evgeniy – Physics, CAS
Spread of Epidemic in a Spatial System of Weakly Connected Evolving Networks.
- Kim, Junwoo – Accounting and Finance, SBA
Accounting Earnings versus Cash Flows in Stock Valuation: Evidence from the COVID-19 Crisis.
- Kinney, Zacharias – Chemistry, CAS
Carbene–Copper–Carbazolide Complexes: New Directions in Photoactive Materials.
- Kranak, Michael – Human Development and Child Studies, SEHS

A Translational A Single-Arm Parametric Evaluation of Multiple Context Training to Mitigate Renewal.

Lewis, Mary – Psychology, CAS

An Examination into New Methods for Studying Overparenting: A Feasibility Study.

Liu, Anyi – Computer Science and Engineering, SECS

Yoda: Building Personalized Educational Experience with AIGC and LLMs.

Maisonneuve, Jonathon – Mechanical Engineering, SECS

Capturing Carbon and Producing Bioenergy Using a Microalgae Photobioreactor with a Controlled Hollow Fiber Membrane Carbonation System.

Malik, Ali Ahmad – Industrial and Systems Engineering, SECS

Sm@rtSystems: Intelligent Digital Twins to Build Smart Manufacturing Systems.

McDaniel, L. Bailey – English, CAS

The Remedy is (at) Home: Trauma, Recovery, and Resilience in August Wilson's *Fences*.

Nir, JD – Mathematics and Statistics, CAS

The Adversarial Burning Game with Random Players.

Overfelt, Jason – Linguistics, CAS

Agreement and Licensing in Semitic Languages.

Patterson, Gregory – Dance, CAS

Keeping It Cool: Exploring African Diaspora Traditions in Detroit.

Pfeiffer, Kathleen – English, Creative Writing and Film, CAS

The Usable Past.

Roumani, Yaman – Decision and Information Sciences, SBA

The Duration of Zero-Day Vulnerabilities: An Exploratory Study.

Roumani, Yazan – Decision and Information Sciences, SBA

The Effect of Remote Work on Employee Productivity and Innovation.

Vonk, Jennifer – Psychology, CAS

Moving Together: Welfare of Horses as a Function of Husbandry Practices.

Wardat, Mohammad – Computer Science and Engineering, SECS

Identifying and Repairing Convolutional Neural Network Faults Using a Transformer Model.

Yang, Ziming – Chemistry, CAS

Identifying the Availability of Labile Organic Nitrogen in Arctic Tundra Soils.

Yoon, Yongsoo – Mechanical Engineering, SECS

Co-Optimization of Design and Control of Series Electric-Hydraulic Hybrid Powertrain for a Heavy-Duty Vehicle.

Zeigler-Hill, Virgil – Psychology, CAS

The Roles of Dangerous and Competitive Social Worldviews in the Experiences of Police Officers.

Faculty Research Grant Awards - \$2,000

Baillargeon, Claude – Art and Art History, CAS

Standing Where They Disembarked: A Journey to "Ground Zero" of the African American Experience.

Bianchette, Thomas – Chemistry, CAS

A Multi-Proxy Analysis of Lacustrine Sediments from the Interior of El Salvador: Do They Contain Evidence of Extreme Events?

Chen, Yu-chuan – Art and Art History, CAS

Mapping Mountains: The Travelscape of the Wuyi Mountains in Early Modern Era.

Dinda, Sumit – Clinical Diagnostic Sciences, SHS

Regulation of Estrogen Receptor Alpha (ER α) and BRCA-1 Tumor Suppressor Gene by Isoliquiritigenin (ISL) in Breast Cancer Cells.

Insko, Jeffrey – English, CAS

The North 30: An Environmental History of America's Most Dangerous Pipeline.

Jiang, Lan – Biological Sciences, CAS

Role of Mechanistic Investigation of Novel CG15888 Gene in Tracheal Tube-Size Regulation.

Ludwig, Colleen – Art and Art History, CAS

I.N.S.E.C.T. Community Research 2024.

Pittiglio, Laura – Nursing, SON

Social Determinants of Health of Pontiac, Michigan.

Stone, Mark – Music, CAS

The Music of Bernard Soglinsog Woma.

Wang, Yuejian – Physics, CAS

Transition-Metal-Doped BaTiO₃ Under High Pressure.

Wu, Colin – Chemistry, CAS

Assessing the Cancers Risks of BRCA1 Variants.

Zhao, Shunan – Economics, SBA

Modelling Production Technologies with Desirable and Undesirable Outputs: Applications on the U.S. Banking Sector and China Manufacturing Industries.

Publication Awards

Estes, Todd – History, CAS

The Emergence and Fundamental Centrality of James Madison's *Federalist* 37: Historians, Political Theorists, and the Recentering of Meaning in *The Federalist*, \$142

McDonald, Gary – Mathematics and Statistics, CAS

A Bayesian Mixture Model Approach to Disparity Testing, \$500

Raman, Lakshmi – Psychology, CAS

Mother-Child Conversations About the Impact of Nutrition and Activities on a Short and Long-Term Basis, \$400

McDonald, Gary – Mathematics and Statistics, CAS

Comparison of Block Design Nonparametric Subset Selection Rules Based on Alternative Scoring Rules,
\$500

Research Excellence Award

Villa Diaz, Luis – Biological Sciences, CAS \$2,500

New Investigator Research Excellence Award

Chen, Jun – Electrical and
Computer Engineering, SECS \$1,500

OU Conference Award

Louis, Steven – Electrical and Computer Engineering, SECS
ICMM 2024 Conference at Oakland University, \$3,000

President' Colloquium Award

Oakley, Barbara – Industrial and Systems Engineering, SECS
Using Generative AI to Strengthen and Speed Learning, \$1,000