

Faculty Research Grant Application

This application must be saved as a PDF document and uploaded to the web form linked on the Fall 2023 intramural grants web page.

# I. Project summary

## Project Title:

**Exploring the Effects of List-Wise Relatedness on Judgment of Learning Reactivity**

## Investigator Information

*Add additional investigators’ information below the table.*

|  |  |  |
| --- | --- | --- |
| **Name** | **College and Department** | **Faculty Rank** |
| **Primary Investigator:** Nicholas Maxwell | **College:** Prothro-Yeager College of Humanities and Social Sciences  **Department:** Psychology | **Rank:** Assistant Professor |
| **Co-investigator:** Click or tap here to enter text. | **College:** Click or tap here to enter text.  **Department:** Click or tap here to enter text. | **Rank:** Click or tap here to enter text. |

If applicable, add additional investigators’ information here (Name, College/Department, and Rank)

## Select the relevant funding opportunity (Select only one):

Exploratory Research Pilot

## Abstract (limit 150 words):

Delete this text and enter your abstract here.

## Assurance and Signatures:

By affixing either a typed or scanned signature below, the applicants(s) agree(s) that, if funded, funds will be used to accomplish the aims of the project in accordance with MSU/State of Texas policies. Additionally, the researchers(s) will present their findings at the Celebration of Scholarship.

PI Signature:Date:

Co-PI Signature(s):Date:

Co-PI Signature(s):Date:

PI’s Department Chair Signature:Date:

PI’s Dean Signature: Date:

Project Narrative

*The project narrative is limited to 10 pages. Page numbers are included at the top right hand corner of each page. Please ensure all text that you enter uses the “normal” style on the styles toolbar of this document (Calibri 11 pt font, single spacing). Enter all responses into the text boxes on the form.*

# II. Purpose and Objectives of the project (Limit 1 page)

*This section should include a concise statement of the general purpose and major aims/objectives of the proposed project (the research question/focus, hypothesis, problem or work to be investigated, or aesthetic direction/technique).*

Please delete this text and enter the purpose/aims of your project in this text box.

# III. Significance/Impact

*Describe the importance and potential impact of your project below. All three sections must be addressed.*

## A. How does this project benefit MSU and/or support MSU’s mission?

The goal for this study is to open up more research opportunities within the Department of Psychology. I’m currently in my second year as an assistant professor and am looking to get undergraduate and graduate students more involved in research. This project will allow me to continue to recruit students to assist with data processing and also inspire follow-up research, which could potentially be used to fulfill thesis requirements for students in our Masters program.

## B. How does this project support the research trajectory of the PI(s)?

As noted above, my primary goal for this project is to continue growing the Psychology Department’s research footprint. Specifically, I plan to use this project to continue a line of research which began with my dissertation. Following the conclusion of this project, I am planning several follow-up studies which will aim to assess the effects of JOL reactivity on more educationally relevant study materials. This will allow me to develop a set of experiments which can be directly used as a vehicle to include students in the research process.

## C. What is the Significance of this project within the Field of Study?

This project aims to clarify factors that affect when Judgments of Learning (JOLs) improve memory. Previous research has primarily [CUE TARGET PAIRS] [LISTS] [MORE ROBUST]

**Implications:** If making JOLs at encoding is also shown to [BENEFIT LIST LEARNING], [AS A STUDY STRATEGY]

# IV. Literature Review

*Enter the literature review (for research projects) or description of artistic/creative precedence (for artistic/creative endeavors) below. This should be in narrative form—it is not simply a list of references.*

Judgments of learning (JOLs) have a rich history of being used as a tool to investigate metamemory processes that participants engage in at encoding (e.g., monitoring and control; see Nelson & Narens, 1994; Rhodes 2016, for reviews). This history spans nearly 60 years, dating back to Arbuckle and Cuddy’s seminal 1969 study which investigated whether learners could accurately predict their performance on a later memory test. For much of their history, JOLs were assumed to be neutral on memory – that is, making JOLs at study was not thought to influence later remembering. However, a growing body of research has recently begun to show that these measures are *reactive* on learning, such that participants making JOLs show memory differences compared to particpants completing a control task (e.g., silently reading items instead of judging their ability to remember them). However, there are many discrepancies surrounding when JOLs are and are not reactive on memory, with differences occurring due to both the type of materials participants study and the methods used to test their memory.

Current studies on JOL reactivity almost exclusively have participants study related and unrelated cue-target word pairs (e.g., cat-dog; cat-muffin, etc.). This is likely because [REASONING].

A common finding is that JOLs improve memory for related pairs but have no effect on unrelated pairs (e.g., Maxwell & Huff, 2022; Soderstom et al., 2015). [CUE-STRENGTHENING & RELATEDNESS ACCOUNTS]

However, the use of cue-target word pairs produces an incomplete picture of reactivity, [LIST-WISE STUFF]

[DRM STUFF]

Taken together, [GOAL]

# V. Research or creative design and methods

*Describe the research or creative design and methods of your project below. For research projects, include a methods/design section with details specific to your discipline (materials, texts, equipment, protocols, etc). For creative projects, include a description of the source materials, processes, and/or techniques. For all projects, describe the role each person (PI, co-PIs, student workers) will have in the project.*

**Overview:**

This study is planned as four-experiment package. First, Experiments 1A and 1B will investigate whether

**Participants**:

For each experiment,

Materials:

Experiments 1A/1B:

Experiments 2A/2B:

Procedure:

Experiment 1A:

Experiment 1B:

Experiment 2A:

Experiment 2B:

# VI. Protection of Human Subjects/Animals (if Applicable)

*Enter any information about protection of human subjects or animals below, including a plan and timeline for obtaining IRB or IACUC approval.*

An IRB application has been submitted to the Institutional Review Board at MSU Texas. IRB approval is currently pending.

# VII. Budget Justification

*In the budget justification narrative below, clearly explain why/how each expense is necessary to achieve the project aims and how the amount was calculated. Ensure that the amounts in the budget justification match the totals on the budget spreadsheet. In addition, list the date by which each expenditure should occur (no later than Aug. 31, 2024). If a graduate student grant is attached to this proposal, do* ***not*** *include graduate student grant expenses in the budget/justification.*

## Student Wages

N/A

## Supplies

*This includes all materials, consumables, software, etc. with a per-item purchase price of less than $500*

N/A

## Travel to conduct research

*Use current state of Texas / GSA travel rates. Travel to conduct research is an allowable expense, but funds may not be used for costs associated with travel to attend or present at professional meetings or conferences. Include the purpose of the trip, destination (if known—may be TBD), duration, number of travelers, and estimated**transportation costs, lodging costs, and meals and incidentals.*

N/A

## Other

*Include all expenses that do not fit within other categories (e.g. contracted services, data purchases, etc.)*

I plan to recruit participants via Prolific. Prolific requires that researchers pay participants at a rate of at least $8/hour. Additionally, prolific charges a 33% fee on top of participant pay (LINK). Since this study is being planned to take 30 minutes to complete, I should expect to spend $5.32 per participant ($4/participant in base pay plus $1.32 in Prolific fees). For each experiment, I plan to recruit 120 participants (40 participants per experimental condition). Since this study is being planned as a four-experiment package, this means I am expecting to recruit a total of 480 participants at a rate of $5.32/participant. Thus, I’m anticipating that it will cost ~$2,500 ($2553.60) to collect the necessary data via Prolific.

## Equipment

*Include all items with a per-unit purchase price of greater than $500 and a useful life of longer than one year. Include copies of any quotes with your application.*

Since I would be able utilize the web-server acquired from my previous intramural grant, no additional equipment will be needed.

# VII. Timeline for the project

*Please provide a timeline for the project, by month, with completion of the project no later than Aug. 31, 2024.*

October 2023: Finalize materials, program experiments, and submit IRB application.

November 2023: Receive IRB approval. Begin data collection pending receipt of funding. Submit abstract to SWPA as a research proposal poster.

December 2023: Complete data collection on Experiments 1A and 1B

January 2024: Analyze data from Experiments 1A and 1B.

February 2024: Recruit additional participants if needed for Experiments 1A/1B; Begin work on poster

March 2024: Begin data collection on Experiments 2A/2B; Present preliminary findings from Experiments 1A/1B at SWPA

April 2024: Analyze all remaining data; recruit additional participants if needed. Present findings at Celebration of Scholarship

May 2024: Begin drafting manuscript with target submission deadline of August 1st, 2024.

# IX. Specific Plans for Dissemination

*Please describe specific plans for dissemination of the findings of the project, including Celebration of Scholarship.*

Findings from this project would be shared in three ways. First, I plan preliminary findings from this project as a poster at the annual meeting of the Southwestern Psychological Association (SWPA), which will be held in March 2024 in San Antonio, TX (the dates for SWPA 2024 have not officially been announced yet, but the conference is traditionally held during the last week of March). Second, I plan on presenting this project as either a poster or a talk at Celebration of Scholarship. Finally, I plan on using Summer 2024 as an opportunity to write this project up for publication in a peer reviewed journal. Target journals might include *Memory & Cognition* (https://www.springer.com/journal/13421) or *Metacognition and Learning* (https://www.springer.com/journal/11409).

# X. Other Current/Prospective Sources of Internal or External Funding

## A. Other current or pending sources of internal and/or external funding

*If other internal or external funding has been requested or procured (e.g. department funds, other grants), please describe the relationship of that funding to this proposal*

N/A

## B. Plans for pursuing and securing external funding

*Describe how you plan to use your intramural-funded research or creative project to pursue and secure external funding. You are encouraged to identify specific grants or other funding sources for which you intend to apply upon completion of the funded project. Contact OSPR if you would like assistance in identifying potential funding matches.*

N/A

# XI. Continuation Project Information

*Is this project a continuation of a project initiated with a previous intramural award? If so, please describe the rationale and benefits of requesting an additional intramural award in this funding cycle. Also describe how this project is different from the previously funded project.*

# N/A XII. Prior Intramural Grants

*If the* ***PI and/or or co-PIs*** *have been awarded any other intramural grants in the previous 5 years, please fill out the table below. List ALL PIs and co-PIs who were named on the grant.* ***Note:*** *Faculty who are serving as PI/co-PI on a current, active intramural grant are* ***ineligible*** *to receive any additional intramural grant funding until the final report is submitted and accepted by OSPR. Add additional rows to the table if necessary.* ***These awards should also be listed on the relevant PI/co-PI’s biographical sketch.***

|  |  |  |
| --- | --- | --- |
| **PI and co-PI Name(s)** | **Award Cycle/Year**  **(e.g. Fall 2019)** | **Title of Project** |
| Nicholas Maxwell | Fall 2022 | Investigating the Effects of Mindfulness on Source-Monitoring Accuracy |
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# Appendices:

***All proposals must include appendices 1-3. If necessary, include quotes for equipment and IRB/IACUC approvals as an additional appendix after Appendix 2.***

* ***Appendix 1: References Cited:*** *List references cited in a discipline-appropriate style.*
* ***Appendix 2: Biographical Sketches:*** *On the following pages, please fill out biosketches for the PI and all co-PIs. If you need additional biosketches, please copy/paste the blank form onto a new page.*
* ***Appendix 3: Budget Spreadsheet:*** *This is an Excel document that will be uploaded as a separate file. The template can be downloaded from the Fall 2023 Intramural Grants web page.*

*Appendices do not count against your 10-page limit.*

Appendix 1. References

*List references cited in the proposal using a discipline-appropriate citation style.*

Please delete this text and enter your references. Please limit this section to no more than two pages. You may change the formatting for the references cited section to match your discipline-appropriate citation style.

Appendix 2. Biographical Sketches

*Each biosketch is limited to 2 pages. Please add and delete rows as needed. Each investigator should complete both pages of the biosketch. If you need additional biosketches, copy/paste the blank form to a new page.*

# Principal Investigator (PI) Biosketch:

|  |  |  |
| --- | --- | --- |
| Name: Nicholas Maxwell | | |
| Rank: Assistant Professor | College: Prothro-Yeager | Dept: Psychology |

## Education/Training

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| --- | --- | --- | --- |
| **Institution/Location** | **Degree** | **Year(s)** | **Field of Study** |
| University of Southern Mississippi | PhD | 2022 | Cognitive Psychology |
| Missouri State University | MS | 2018 | Experimental Psychology |
| Mississippi State University | BA | 2015 | Psychology |
|  |  |  |  |

## Academic and Professional Experience

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| **Academic Year(s)** | **Rank and Tenure Status** |
| 2022-Present | Assistant Professor (Tenure-Track) |
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## Courses taught at MSU Texas in the previous two years

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| **Semester and Year** | **Course Title** |
| Fall 23 | PSYC XXXX Psychological Tests & Evaluations |
| Fall 22; Spring 23; Fall 23 | PSYC 3323 Developmental Psychology (6 sections (2 per semester)) |
| Fall 22; Fall 23 | PSYC 3303 Writing in Psychology (2 sections (1 per semester)) |
| Summer 23 | PSYC XXXX Cognition |
| Spring 23 | PSYC XXXX Research Methods |
| Spring 23 | PSYC XXXX Social Psychology |
| Fall 2022 | PSCY 1103 General Psychology I |

## Relevant Publications/Presentations

*List publications and presentations relevant to the proposed project below.*

|  |
| --- |
| Maxwell, N. P., Cates, E. E., & Huff, M. J. (In Press). Item-specific and relational encoding are effective at reducing the illusion of competence. *Psychological Research*, X – XX.Available at: https://osf.io/x9n4f/  Maxwell, N. P. & Huff, M. J. (2023). Is discriminability a requirement for reactivity? Comparing the effects of mixed vs. pure list presentations on judgment of learning reactivity. *Memory & Cognition, 51*(5), 1198-1213.Available at: <https://osf.io/3fztn/>  Maxwell, N. P. & Huff, M. J. (2022). Reactivity from judgments of learning is not only due to memory forecasting: Evidence from associative memory and frequency judgments. *Metacognition and Learning,* *17*(2), 589-625. Available at: https://osf.io/8yvn3/  Maxwell, N. P., Perry, T., & Huff, M. J. (2022). Perceptually fluent features of study words do not inflate judgements of learning: Evidence from font size, highlights, and Sans Forgetica font type. *Metacognition and Learning,* *17*(2), 293-319. Available at: <https://osf.io/3xwdr/>  Maxwell, N. P. & Huff, M. J. (2021). The deceptive nature of associative word pairs: Effects of associative direction on judgments of learning. *Psychological Research, 85*, 1757-1775. Available at: https://osf.io/hvdma/.  Maxwell, N. P. & Buchanan, E. M. (2020). Investigating the interaction of direct and indirect relation on memory judgments and retrieval. *Cognitive Processing, 21*(1), 41-53. Available at https://osf.io/fcesn/  **Relevant Presentations:**  Maxwell, N. P & Huff, M. J. *Investigating the Effects of Mediated Association on JOL Reactivity.* Abstract accepted at the 64th annual meeting of the Psychonomic Society, San Francisco, CA (Nov. 2023).  Maxwell, N. P., Cates, E. E., & Huff, M. J. *Item-Specific and Relational Encoding are Effective at Reducing the Illusion of Competence.* Talk presented at the University of Southern Mississippi’s annual Susan A. Siltanen Graduate Student Research Symposium, Hattiesburg, MS (April 2022).  Maxwell, N. P. & Huff, M. J. *The Effects of Associative Direction on Judgment of Learning Reactivity*. Poster presented at the 61st annual meeting of the Psychonomic Society, Virtual Conference (Nov. 2020).  Maxwell, N. P. & Huff, M. J. *Relations are not Always Beneficial: The Effect of Associative Direction on Judgments of Learning*. Poster presented at the 60th annual meeting of the Psychonomic Society, Montreal, QC, CA (Nov. 2019). |

## Other Relevant Activities

*In this section, list up to* ***five*** *items that demonstrate the broader impact of your professional and scholarly activities as they relate to this project. Examples may include, among others: innovations in teaching and training, mentorship activities, awards and honors, etc.*

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| **Awards**: In Fall 2022, I received a Research and Faculty Development Grant worth approximately $1500 which was used to present my research findings at international and regional conferences.  **Mentorship**: During the 2022-2023 academic year, I mentored three graduated students who presented their work at the annual meeting of the Southwestern Psychological Association and Celebration of Scholarship. This would not have been possible without the intramural grant I received last year.  **Other**: In 2021, I developed an *R* package for scoring lexical output from memory studies (package available at: <https://cran.r-project.org/web/packages/lrd/index.html>; publication available at: <https://link.springer.com/article/10.3758/s13428-021-01718-y>). This package is open-source and has been made freely available to other memory researchers to aid with data scoring/coding. This program will be used to score recall data generated from the proposed study. |

## Current and Previous MSU Intramural Grant Funding

You must list all MSU intramural grants on which you have served as PI or co-PI since Fall 2018. Add additional lines if needed.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Award Cycle** | **Title** | **PI and co-PI name(s)** |
| 1 | Fall 2022 | Investigating the Effects of Mindfulness on Source-Monitoring Accuracy | Nicholas Maxwell |
| 2 |  |  |  |
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| ***How were the results of these prior intramural awards disseminated or made public? Include the type of dissemination (e.g. manuscript, book chapter, exhibition, presentation).*** | | | |
| 1 | Presentations (Southwestern Psychological Association, March 2023; Celebration of Scholarship Spring 2023); Manuscript is currently in preparation | | |
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## Current and Previous External Grant Funding

*If applicable, list all external grants or research contracts on which you have served as PI or co-PI.*

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| **Title or brief description** | **PI and co-PI names** | **Sponsor** | **Start/End Dates** |
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Co-PI 1 should complete both pages of this biosketch. Please feel free to add or delete rows as needed.

# Co-PI 1 Biosketch

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| --- | --- | --- |
| Name: | | |
| Rank: | College: | Dept: |

## Education/Training

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| Institution/Location | Degree | Year(s) | Field of Study |
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## Academic and Professional Experience

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| Academic Year(s) | Rank and Tenure Status |
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## Courses taught at MSU Texas in the previous two years

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| Semester and Year | Course Title |
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## Relevant Publications/Presentations

*List publications and presentations relevant to the proposed project below.*

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## Other Relevant Activities

*In this section, list up to* ***five*** *items that demonstrate the broader impact of your professional and scholarly activities as they relate to this project. Examples may include, among others: innovations in teaching and training, mentorship activities, awards and honors, etc.*

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## Current and Previous MSU Intramural Grant Funding

You must list all MSU intramural grants on which you have served as PI or co-PI since Fall 2018. Add additional lines if needed.

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| ***How were the results of these prior intramural awards disseminated or made public? Include the type of dissemination (e.g. manuscript, book chapter, exhibition, presentation).*** | | | |
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## Current and Previous External Grant Funding

*If applicable, list all external grants or research contracts on which you have served as PI or co-PI.*

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| --- | --- | --- | --- |
| **Title or brief description** | **PI and co-PI names** | **Sponsor** | **Start/End Dates** |
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Co-PI 2 should complete both pages of this biosketch. Please feel free to add or delete rows as needed.

# Co-PI 2 Biosketch

|  |  |  |
| --- | --- | --- |
| Name: | | |
| Rank: | College: | Dept: |

## Education/Training

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| Institution/Location | Degree | Year(s) | Field of Study |
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## Academic and Professional Experience

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| Academic Year(s) | Rank and Tenure Status |
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## Courses taught at MSU Texas in the previous two years

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| Semester and Year | Course Title |
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## Relevant Publications/Presentations

*List publications and presentations relevant to the proposed project below.*

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## Other Relevant Activities

*In this section, list up to* ***five*** *items that demonstrate the broader impact of your professional and scholarly activities as they relate to this project. Examples may include, among others: innovations in teaching and training, mentorship activities, awards and honors, etc.*

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## Current and Previous MSU Intramural Grant Funding

You must list all MSU intramural grants on which you have served as PI or co-PI since Fall 2018. Add additional lines if needed.

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| **#** | **Award Cycle** | **Title** | **PI and co-PI name(s)** |
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| ***How were the results of these prior intramural awards disseminated or made public? Include the type of dissemination (e.g. manuscript, book chapter, exhibition, presentation).*** | | | |
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## Current and Previous External Grant Funding

*If applicable, list all external grants or research contracts on which you have served as PI or co-PI.*

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| **Title or brief description** | **PI and co-PI names** | **Sponsor** | **Start/End Dates** |
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Co-PI 3 should complete both pages of this biosketch. Please feel free to add or delete rows as needed.

# Co-PI 3 Biosketch

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| Name: | | |
| Rank: | College: | Dept: |

## Education/Training

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| Institution/Location | Degree | Year(s) | Field of Study |
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## Academic and Professional Experience

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| Academic Year(s) | Rank and Tenure Status |
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## Courses taught at MSU Texas in the previous two years

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| --- | --- |
| Semester and Year | Course Title |
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## Relevant Publications/Presentations

*List publications and presentations relevant to the proposed project below.*

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## Other Relevant Activities

*In this section, list up to* ***five*** *items that demonstrate the broader impact of your professional and scholarly activities as they relate to this project. Examples may include, among others: innovations in teaching and training, mentorship activities, awards and honors, etc.*

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## Current and Previous MSU Intramural Grant Funding

You must list all MSU intramural grants on which you have served as PI or co-PI since Fall 2018. Add additional lines if needed.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Award Cycle** | **Title** | **PI and co-PI name(s)** |
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| ***How were the results of these prior intramural awards disseminated or made public? Include the type of dissemination (e.g. manuscript, book chapter, exhibition, presentation).*** | | | |
| 1 |  | | |
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## Current and Previous External Grant Funding

*If applicable, list all external grants or research contracts on which you have served as PI or co-PI.*

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| --- | --- | --- | --- |
| **Title or brief description** | **PI and co-PI names** | **Sponsor** | **Start/End Dates** |
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