

## FORM D – IV A INSTRUCTION

The faculty member is encouraged to use a range of evidence demonstrating instructional accomplishment, which can be included in portfolios or compendia of relevant materials.

### 1. Undergraduate and Graduate Credit Instruction:

Record of instructional activities for at least the past six semesters. Include only actual participation in credit courses (on- or off-campus instruction) or virtual university on-line courses. In determining the “past six semesters,” the faculty member may elect to exclude any semesters during which s/he was on leave; additional semesters may be included on an additional page. Fill in or, as appropriate, attach relevant print screens from CLIFMS\*.

Semester and Year	Course Number	Credits (Number or Var)	Number of Sections Taught Lec Rec Lab	Number of Students	Number of Assistants **	Notes
Fall 2013	NEU 301	3	6 Lec	99	1	[REDACTED]
Spring 2014	NEU 302	3	2 Lec	84	1	Guest lecturer
	NEU 420	3	1 Lec	19	0	Guest lecturer
Fall 2014	NEU 301	3	9 Lec	140	2	Co-taught with [REDACTED]
	PSL 950	1	1 Lec	10	0	Co-director with [REDACTED]
Spring 2015	NEU 420	1	1 Lec	35	0	Guest Lecturer
Fall 2015	NEU 301	3	10 Lec	100, 115	2	[REDACTED]
	NEU 807	2	1 Lec	10	0	Guest lecturer
	PSL 950	1	1 Lec	10	0	[REDACTED]
Spring 2016	NEU 490	2	1 Lab	1	0	Independent Study for 1 student
	NEU 420	3	1 Lec	30	0	Guest lecturer
	NEU 302	3	2 Lec	100, 115	2	Guest lecturer
Fall 2016	NEU 301	3	12 Lec	261	2	Course Director and co-taught
	PSL 813	3	1 Lec	13	0	Guest Lecturer
	PSL 950	1	1 Lec	8	0	[REDACTED]

### 2. Non-Credit Instruction:

List other instructional activities including non-credit courses/certificate programs, licensure programs, conferences, seminars, workshops, etc. Include non-credit instruction that involves international, comparative, or global content delivered either to domestic or international groups, either here or abroad.

#### Spring 2013

- **3/8/13 Neuroscience Student Club Panel on Neural Plasticity.** I gave a short presentation on drug-induced plasticity changes in the ventral tegmental area then helped to lead a panel discussion answering student questions on the topic.
- **5/18/13 Invited Speaker at University Laboratory Animal Research (ULAR) Monthly Meeting.** I gave a short presentation (~15 minutes) and then answered questions about animal models of depression and how to evaluate different types of stress-related behaviors in mice. This was attended by MSU ULAR employees.

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### Fall 2013

- **11/6/13 Invited Speaker at the MSU Epidemiology Group.** I gave a one-hour seminar on the molecular mechanisms underlying chronic drug and stress changes in the ventral tegmental area to [REDACTED] cocaine epidemiology group. We then discussed possible collaborations between our research groups.
- **12/4/13 Invited Speaker for the MSU Pharmacology/Toxicology Seminar Series.** I gave a one-hour seminar on the role of ventral tegmental area dopamine neurons in drug reward and stress. This was attended by faculty and students of the MSU Pharmacology Department.

### Spring 2015

- **1/27/15 Neuroscience Graduate Program Research Forum.** I participated on a panel to discuss undergraduate teaching experiences for Neuroscience Program graduate students.

### Spring 2016

- **3/17/16 Neuroscience Graduate Program Research Forum.** I participated on a panel to discuss strategies on how to finish your thesis and pursue postdoctoral positions for Neuroscience Program graduate students.

**FORM D – IV A INSTRUCTION****3. Academic Advising:**

a. Faculty member's activity in the area of academic advising. The statement may include commentary on supplementary materials such as recruitment activities, international student advising, evidence of peer recognition, and evidence of student recognition.

**Undergraduate: 8**

Undergraduate Advising: I currently have three undergraduate students in my laboratory, and to date have mentored eight undergraduates in research projects in my lab. I am fortunate that each semester 20-30 undergraduate students e-mail me asking about positions in my lab. When I have an opening, I individually interview 5-10 students and then choose one or two, depending on the number of openings in the lab. I limit the number the undergraduate students in my lab so that they can initially be paired one-to-one with a graduate student. The trainees then spend their first few weeks or months learning techniques that prepare them for an independent project, including lab bench skills, data record keeping, and data analysis. When possible, they also attend weekly lab meetings and present their data to our lab group, allowing them to improve their presentation skills and develop confidence in answering questions about their work. When the student develops the skills required for independence, I help them design a project. This involves the student becoming familiar with relevant background research, developing testable hypotheses, and assisting with experimental design, data analysis and interpretation. I also encourage the students to apply for scholarships that provide for paid time in the lab, both within MSU and at the national level, many of which have been funded (see below). All students then present their project at UURAF and many students also go on to present their work at national conferences and earn co-authorship on publications (detailed in the table below). Many of these students will move on to careers in science and/or medicine, and their research productivity in my lab and my letters of recommendation will likely play a critical role in their continued academic success. Thus, in summary, my goals in mentoring undergraduate students are to develop their critical thinking skills, provide positive exposure to neuroscience laboratory research that may inform their career choices, cultivate an environment that encourages discourse and creativity, and enhance their communication skills so they can confidently convey their knowledge to others.

**Undergraduate Students Advised in [REDACTED] Lab (Spring 2013 – Present)**

Undergraduate	Major	Years Mentored	Honors & Achievements
[REDACTED]	Neuroscience	Spring 2013 – Fall 2015	<ul style="list-style-type: none"> <li>• Co-Mentored [REDACTED]</li> <li>• Lyman Briggs Research Fellowship (Fall 2013)</li> <li>• Vanderbilt Research Scholar (Summer 2013)</li> <li>• First-Author Poster at Society for Neuroscience Annual Meeting               <ul style="list-style-type: none"> <li>◦ 2014, Washington, DC</li> </ul> </li> <li>• Faculty for Undergraduate Neuroscience Travel Award to SfN Annual Meeting, 2014</li> <li>• Award-winning Poster at UURAF (2014)</li> <li>• Goldwater Scholarship, Honorable Mention, 2014</li> <li>• Goldwater Scholarship awardee, 2015</li> <li>• CNS Fowler Research Award (summer 2015)</li> <li>• Jeffrey Cole Excellence Award (2014 and 2015)</li> <li>• Middle-author publication in the <i>Journal of Neuroscience</i> <ul style="list-style-type: none"> <li>◦ Eagle et al., 2015</li> </ul> </li> <li>• Graduated Dec. 2015, currently medical student in MSU Human Medicine</li> </ul>
[REDACTED]	Neuroscience	Spring 2013 – Fall 2015	<ul style="list-style-type: none"> <li>• Co-Mentored with [REDACTED]</li> <li>• CNS Fowler Summer Research Award (2013 and 2015)</li> </ul>

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			<ul style="list-style-type: none"> <li>• Two First-Author Posters at Society for Neuroscience Annual Meeting <ul style="list-style-type: none"> <li>○ 2014, Washington, DC</li> <li>○ 2015, Chicago, IL</li> </ul> </li> <li>• Faculty for Undergraduate Neuroscience Travel Award to SfN Annual Meeting, 2014</li> <li>• Two second-author publications in the <i>Journal of Neuroscience</i> and <i>Neuropharmacology</i> <ul style="list-style-type: none"> <li>○ Cates et al., 2014</li> <li>○ Vialou et al., 2015</li> </ul> </li> <li>• Invited seminar at Vanderbilt University Neuroscience 3/26/15</li> <li>• Graduated Dec. 2015</li> </ul>
	Undeclared	Fall 2013	Professorial Assistant Program
	Neuroscience and Psychology	Fall 2014 - Spring 2016	<ul style="list-style-type: none"> <li>• MSU Neuroscience Program Undergraduate Research Scholarship (Spring 2015)</li> <li>• Lyman Briggs S-STEM Scholarship</li> <li>• UURAF Poster Presentation (2015 and 2016)</li> <li>• Middle Author on Poster at Society for Neuroscience Annual Meeting (2015 and 2016)</li> <li>• Graduated May 2016</li> </ul>
	Medical Microbiology (Univ. of Puerto Rico, Arecibo)	Summer 2015 and 2016	<ul style="list-style-type: none"> <li>• Visiting undergraduate through “Bridge to PhD in Neuroscience Program” <ul style="list-style-type: none"> <li>○ MSU Research Program for underrepresented minorities</li> </ul> </li> <li>• First-Author Poster at Society for Neuroscience Annual Meeting <ul style="list-style-type: none"> <li>○ 2015, Chicago, IL</li> </ul> </li> <li>• Annual Biomedical Research Conference for Minority Students (ABRCMS) Travel Award</li> <li>• First-Author Poster at ABRCMS <ul style="list-style-type: none"> <li>○ 2015, Seattle, WA</li> <li>○ 2016, Tampa, FL</li> </ul> </li> <li>• Annual Society for Advancement of Chicanos/Hispanics and Native American Scientists (SACNAS) Travel Scholarship (2015 and 2016)</li> <li>• First-Author Poster at SACNAS <ul style="list-style-type: none"> <li>○ 2015, Washington D.C.</li> <li>○ 2016, Long Beach, CA</li> </ul> </li> </ul>
	Neuroscience	Fall 2015 - Present	• CNS Fowler Summer Research Award (2016)
	Neuroscience	Fall 2016 - Present	• Osteopathic Medical Scholar
	Neuroscience and English	Fall 2016 - Present	<ul style="list-style-type: none"> <li>• Co-mentor with [REDACTED]</li> <li>• Professorial Assistant Program</li> <li>• CNS Dean’s Research Scholar (2016-2017)</li> <li>• Catherine Fredin Hooper Award</li> </ul>

**Graduate: 4**

Graduate Advising: I currently have three PhD students in my laboratory and have graduated an MS student. Thus, graduate students constitute the majority of my full-time laboratory personnel and a large proportion of my research effort is dedicated to training and advising graduate students in order to empower them to achieve the laboratory’s research goals. My goal in training graduate students is to facilitate their path toward scientific independence by helping them to develop technical expertise, effective communication, and analytical skills necessary for any science-based career. I

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provide direct training in the approaches we use in the lab including: mouse behavior and surgery, molecular biology, biochemistry, histology, and microscopy techniques. I also oversee their research project, assisting them with experimental design, data interpretation, and writing. I also encourage my students to seek out opportunities to present their work both within MSU and at national conferences, and help them to improve their scientific communication skills and facilitate networking with colleagues. Finally, all of my graduate students apply for graduate fellowships, as I feel this is an invaluable experience for them to think critically about their research project and gain practical skills in grant writing. This training approach has benefitted my students as my evidenced by my senior graduate student, [REDACTED]. [REDACTED] was awarded a prestigious graduate fellowship from the PhRMA foundation, already has two peer-reviewed middle-author publications and a first-author review paper (and a first-author paper currently under review), and has also won multiple merit-based awards (see table below). My two newer students, [REDACTED], are on a similar track, with [REDACTED] recently being selected as the recipient of a national travel award and receiving positive reviews on her NRSA fellowship application. In addition to mentoring the students within my own lab, I serve on numerous PhD advisory committees, am very active in recruitment for the Biomolecular Sciences and Neuroscience graduate programs, and serve on the Physiology Department Graduate Student Affairs committee, highlighting my dedication to the training and advising of graduate students.

I have also had the following graduate students conduct research rotations in my lab (listed below are students that did not ultimately join my lab):

- [REDACTED] Neuroscience (DO/PhD) summer 2015

In addition to the students in my laboratory, I have also served on the following PhD thesis advisory committees:

- [REDACTED] Psychology 2013 (graduated)
- [REDACTED] Pharmacology/Toxicology 2013 – 2016 (graduated)
- [REDACTED] Neuroscience 2014 - 2015
- [REDACTED] Neuroscience 2014 - present
- [REDACTED] Physiology 2014 - present
- [REDACTED] Neuroscience (DO/PhD) 2014 - present
- [REDACTED] Pharmacology/Toxicology 2014 - present
- [REDACTED] Physiology 2015 - present
- [REDACTED] Physiology 2016 – present

### Graduate Students Advised in [REDACTED] Lab (Spring 2013 – Present)

Graduate Student	Major	Years Mentored	Honors & Notes
[REDACTED]	Pharmacology/ Toxicology and Forensics	Spring 2013- Summer 2014	<ul style="list-style-type: none"><li>• CNS Recruiting Fellowship 2013-2014</li><li>• M.S. in Pharmacology/Toxicology, Summer 2014</li><li>• First-Author Presentations at:<ul style="list-style-type: none"><li>◦ Council of Graduate Students (COGS) Graduate Academic Conference, MSU, March 2014</li></ul></li><li>• Two middle-author publications in the <i>Journal of Neurochemistry</i> and <i>Journal of Neuroscience</i><ul style="list-style-type: none"><li>◦ Heller et al., 2015</li><li>◦ Vialou et al., 2014</li></ul></li></ul>
[REDACTED]	Pharmacology/ Toxicology	Spring 2013- Present	<ul style="list-style-type: none"><li>• Trainee on the Integrative Pharmacological Sciences Training Program Grant (NIH T32GM092715), 2013 – 2014</li><li>• Center for Integrative Toxicology Travel Award, 2014</li><li>• ASPET Travel Award to Experimental Biology, 2015</li><li>• ASPET Career Development Award, 2016</li><li>• Second Place ASPET Poster Competition, 2016</li><li>• PhRMA Foundation Graduate Fellowship, 2016 – 2017 (\$20K/year)</li></ul>

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			<ul style="list-style-type: none"> <li>• First-Author Presentations at: <ul style="list-style-type: none"> <li>○ Society for Neuroscience Annual Meeting, Washington, D.C. 2014</li> <li>○ Experimental Biology: American Society of Pharmacology and Experimental Therapeutics (ASPET), Boston, MA, 2015</li> <li>○ Society for Neuroscience Annual Meeting, Chicago, IL, Oct 2015</li> <li>○ Experimental Biology: ASPET, San Diego, CA 2016</li> <li>○ Society for Neuroscience Annual Meeting, San Diego, CA, 2016</li> </ul> </li> <li>• Middle-author publications in the <i>Journal of Neurochemistry</i> and <i>Neuropharmacology</i> <ul style="list-style-type: none"> <li>○ Heller et al., 2015</li> <li>○ Vialou et al., 2015</li> </ul> </li> <li>• One first-author review article in <i>eLS</i> <ul style="list-style-type: none"> <li>○ [REDACTED]</li> </ul> </li> </ul>
[REDACTED]	Neuroscience	Fall 2014 - Present	<ul style="list-style-type: none"> <li>• Trainee on the Interdisciplinary Training Program in Neuroscience Grant (NIH T32NS044928), 2013 – 2014</li> <li>• Trainee Professional Development Award, Society for Neuroscience, 2016</li> <li>• First-Author Presentations at: <ul style="list-style-type: none"> <li>○ Society for Neuroscience Annual Meeting, Chicago, IL, Oct 2015</li> <li>○ Society for Neuroscience Annual Meeting, San Diego, CA, 2016</li> </ul> </li> <li>• One middle-author publication in <i>Neuropharmacology</i> <ul style="list-style-type: none"> <li>○ [REDACTED]</li> </ul> </li> </ul>
[REDACTED]	Neuroscience	Spring 2016 - Present	<ul style="list-style-type: none"> <li>• Trainee on the Interdisciplinary Training Program in Neuroscience Grant (NIH T32NS044928), 2013 – 2014</li> <li>• First-Author Presentations at: <ul style="list-style-type: none"> <li>○ Society for Neuroscience Annual Meeting, San Diego, CA, 2016</li> </ul> </li> </ul>

**Graduate/Professional: 0**

**Other: 0**

**b. Candidate's undergraduate advisees (if applicable to individual under review):**

	Freshman	Sophomore	Junior	Senior
Number of current undergraduate advisees		2		1

**c. Candidate's graduate/graduate-professional advisees (limit to principal advisor or committee chairpersonship status):**

	Masters	Doctoral	Professional
Number of students currently enrolled or active	0	3	0
Number of graduate committees during the reporting period	0	9	
Degrees awarded during the reporting period	1	0	0
Degrees awarded during career	1	0	0



**FORM D – IV A INSTRUCTION, continued**

**4. List of Instructional Works:**

List publications, presentations, papers, grants received (refer to Form D-IVE), and other works that are primarily in support of or emanating from instructional activity.

**5. Other Evidence of Instructional Activity:**

Cite other evidence of instructional productivity such as works/grants in progress or under review (refer to Form D-IVE). Address instructional goals and approaches; innovative methods or curricular development; significant effects of instruction; and curatorial and patient care activities, etc. Include evidence of instructional awards and peer recognition (within and outside the university).

### CNS RPT Numerical Student Evaluation Summaries

Semester and Year	Course Number	Number of student responses	Instructor Involvement (average of SIRS items 1-4)	Student Interest (average of SIRS items 5-8)	Student-Instructor Interaction (average of SIRS items 9-12)	Course Demands (average of SIRS items 13-16)	Course Organization (average of SIRS items 17-20)
	COMP						
Fall 2015	NEU 301-001	56 (65%)	1.98	1.84	2.17	2.58	2.59
	COMP		2.02	1.95	2.41	2.41	2.47
	NEU 301-002	20 (83%)	2.13	1.85	2.51	3.05	2.77
	COMP		1.96	1.85	2.08	2.6	2.57
	NEU 301-003	52 (68%)	2.17	1.85	2.3	2.71	2.51
	COMP		2.14	1.85	2.18	2.55	2.39

**From the CNS P&T Guidelines adopted March 16, 2011:**

For each course taught, list semester and year, course number, number of student responses, and average SIRS (or equivalent) scores (1.0-5.0, with lower numbers better) in each of the categories listed, along with corresponding average scores in comparable (“COMP”, either same course taught by other instructors, or courses at same level and with a comparable audience) courses immediately below. **If department-specific evaluations are used, provide appropriate average scores corresponding to categories listed above and rescale to SIRS 1.0-5.0 scale.**



## FORM D - IV B RESEARCH AND CREATIVE ACTIVITIES

### 1. List of Research/Creative Works:

Attach a separate list of publications, presentations, papers, and other works that are primarily in support of or emanating from Research and Creative Activities. Indicate how the primary or lead author of a multi-authored work can be identified. The list should provide dates and, in particular, accurately indicate activity from the reporting period. Items to be identified:

- 1) Books
- 2) Book chapters
- 3) Bulletins or monographs
- 4) Articles
- 5) Reviews
- 6) Papers and presentations for learned professional organizations and societies
- 7) Artistic and creative endeavors (exhibits, showings, scores, performances, recordings, etc.)
- 8) Reports or studies

Indicate peer-reviewed or refereed items with a “\*”.

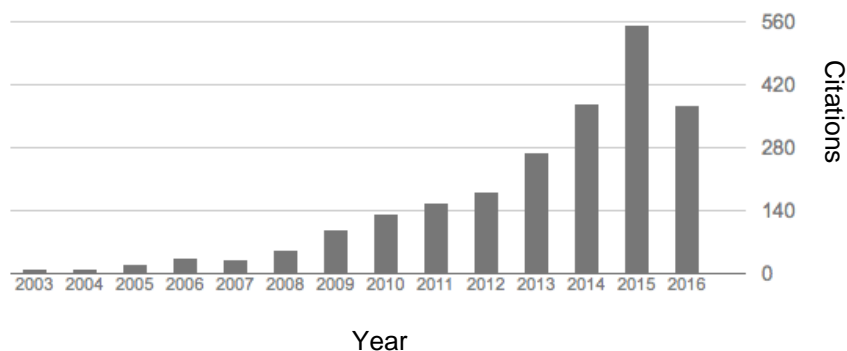
Indicate items with a significant outreach component with a “\*\*” (determined by the faculty member)

### 2. Quantity of Research/Creative Works Produced:

For each of the categories listed in question one above, list the number of research and creative works produced.

	1	2	3	4	5	6	7	8
During the reporting period	0	0	0	16	1	29	0	0
During career	0	2	0	35	3	>50	0	0

My work has been highly cited. The citation data below are from Google Scholar as of 6/15/2016 and reveal a trend of rapidly increasing dissemination and citation of my papers.



My h-index score as of 9/27/16 is 26, indicating that I have 26 publications that have been cited at least 26 times. Further, my i10-index is 32, meaning that 32 of my publications have been cited at least 10 times. My work has been cited a total of 2,301 times, with 1,567 of those citations coming during the reporting period (since January 2013).

For publications on which I am first or corresponding (final) author, impact factor and citations are shown:

Journal	Role	Impact Factor	Year	# of Citations
Brain Research	First	2.8	2002	131
J. Neuroscience	First	6.7	2008	65
Neuropharmacology	First	5.1	2005	61

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Neuron	First	15.1	2011	54
Cold Spring Harbor	First	9.5	2012	40
Perspectives in Medicine				
Neuropharmacology	First	5.1	2005	33
Neurotransmitter Transporter	First		2006	21
PLoS One	First	3.2	2014	7
Scientific Reports	Corresponding	5.6	2015	2
Journal of Neurochemistry	Corresponding	4.3	2015	2

**3. Number of Grants Received** (primarily in support of research and creative activities; refer to Form D-IVE):

During the reporting period: 4 During career: 6

**4. Other Evidence of Research/Creative Activity:**

Cite other evidence of research and creative productivity such as: seminars, colloquia, invited papers; works/grants in progress or under review (refer to Form D-IVE); patents; formation of research-related partnerships with organizations, industries, or communities; curatorial and patient care activities, etc. Include evidence of peer recognition (within and outside the university).

**Seminars and Presentations**

Since starting at Michigan State University I have been invited to give a number of seminars, as listed below:

**Invited Presentations**

- May 5, 2013 Drug Abuse Research Network, Wayne State University, Detroit, MI. "Role of ventral tegmental area dopamine neurons in drug reward and stress"

**Invited Presentations at MSU**

- November 6, 2013 Epidemiology Department. "The role of ventral tegmental area dopamine neurons in drug reward"
- May 18, 2013 University Lab Animal Resources. "Animal models of depression"
- December 4, 2013 Department of Pharmacology. "Role of ventral tegmental area dopamine neurons in drug reward and stress"

**Oral Abstracts and Posters**

In addition to seminars, work from my lab has been featured in poster presentations at national meetings (only presentations from the reporting period are listed):

2016	Society for Neuroscience, San Diego, CA	Corresponding Author, 3 posters
2016	ABCRMS, Tampa, FL	Corresponding Author, 1 poster
2016	SACNAS, Long Beach, CA	Corresponding Author, 1 poster
2016	Michigan Chapter of the Society for Neuroscience, East Lansing, MI	Corresponding Author, 3 posters
2016	Experimental Biology/ASPET, San Diego, CA	Corresponding Author, 1 poster
2015	American College of Neuropsychopharmacology, Ft. Lauderdale, FL	Corresponding Author, 1 poster
2015	Society for Neuroscience, Chicago, IL	Corresponding Author, 2 posters Co-Author, 1 poster
2015	Experimental Biology/ASPET, Boston, MA	Corresponding Author, 1 poster and talk
2015	Gordon Research Conference on Catecholamines, Newry, ME	Corresponding Author, 1 poster
2015	Michigan Chapter of the Society for Neuroscience, Mount Pleasant, MI	Corresponding Author, 2 posters

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2015	Annual Biomedical Research Conference for Minority Students (ABRCMS), Seattle, WA	Corresponding Author, 1 poster
2015	Annual Society for Advancement of Chicanos/Hispanics and Native American Scientists (SACNAS), Washington DC	Corresponding Author, 1 poster
2014	American College of Neuropsychopharmacology, Phoenix, AZ	Corresponding Author, 1 poster
2014	Society for Neuroscience, Washington DC	Corresponding Author, 2 posters Co-Author, 2 posters
2013	American College of Neuropsychopharmacology, Ft. Lauderdale, FL	Corresponding Author, 1 poster
2013	Society for Neuroscience, San Diego, CA	Co-Author, 2 posters
2013	Gordon Research Conference on Catecholamines, Mount Snow, VT	Corresponding Author, 1 poster

**Grant Applications**

Since arriving at MSU, I have secured four external grants, three as the principle investigator and one as mentor. The total direct costs of these grants are \$1,340,000 as detailed below.

<u>Year</u>	<u>Agency</u>	<u>Direct Costs</u>
2016 – 2021	National Institute on Drug Abuse, NIH	\$1,125,000
2015 – 2017	PhRMA Foundation Graduate Student Fellowship	\$ 40,000
2015 – 2016	National Institute on Drug Abuse, NIH	\$ 75,000
2014	PhRMA Foundation, Research Starter Grant	\$ 100,000

## List of Research/Creative Works:

### Book Chapters

1. [REDACTED] *ADHD and the Dopamine Transporter: Are There Reasons to Pay Attention?* Handbook of Experimental Pharmacology, Volume 175: Neurotransmitter Transporters, Springer 2006. Editors: [REDACTED], pp. 373-415.
2. [REDACTED]. 2002. *Familial orthostatic tachycardia due to norepinephrine transporter (SLC6A2) deficiency*, Catecholamine Research: From Molecular Insights to Clinical Medicine, Kluwer Academic/Plenum Publishers, 499-504

### Articles

1. [REDACTED] **Fluoxetine exposure during adolescence increases preference for cocaine in adulthood.** 2015. Scientific Reports 5:15009.
2. \* [REDACTED] **Experience-dependent induction of hippocampal delta FosB controls learning.** 2015. Journal of Neuroscience 35: 13773-83.
3. [REDACTED] **Differential induction of FosB isoforms throughout the brain by fluoxetine and chronic stress.** 2015. Neuropharmacology 99: 28-37.
4. [REDACTED] **Dishevelled-2 regulates cocaine-induced structural plasticity and Rac1 activity in the nucleus accumbens.** 2015. Neuroscience Letters 598: 23-28.
5. \* [REDACTED] **Epigenetic basis of opiate suppression of Bdnf gene expression in the ventral tegmental area.** 2015. Nature Neuroscience 18:415-22.
6. [REDACTED] **B-catenin mediates stress resilience through Dicer1/microRNA regulation.** 2014. Nature 516: 51-55.
7. \* [REDACTED] **Locus-specific epigenetic remodeling controls addiction- and depression-related behaviors.** 2014. Nature Neuroscience 17: 1720-1727.

**List of Research/Creative Works:**

8. \* **Morphine and cocaine increase serum- and glucocorticoid-inducible kinase 1 activity in the ventral tegmental area.** 2014. J Neurochem 132: 243-253.
9. **Self-administration of ethanol, cocaine, or nicotine does not decrease the soma size of ventral tegmental area dopamine neurons.** 2014. PLoS One 9:e95962.
10. **Prefrontal cortical circuit for depression- and anxiety-related behaviors mediated by cholecystokinin: Role of deltaFosB.** 2014. J Neurosci 34: 3878-87.
11. \* **Enduring deficits in brain reward function after chronic social defeat in rats: susceptibility, resilience, and antidepressant response.** 2014. Biol Psychiatry 76: 542-49.
12. **Stress gates neural activation of BDNF in the mesolimbic reward pathway.** 2014. Nature Neurosci 17: 27-9.
13. \* **Fluoxetine epigenetically alters the CaMKII promoter in the nucleus accumbens to regulate delta FosB binding and antidepressant effects.** 2014. Neuropsychopharmacology 39: 1178-86.
14. \* **Behavioral and structural responses to chronic cocaine require a feedforward loop involving  $\Delta$ FosB and calcium/calmodulin-dependent kinase II in the nucleus accumbens shell.** 2013. J Neurosci 33: 4295-4307.
15. \* **Rapid regulation of depression-related behaviors by control of midbrain dopamine neurons.** Nature 493: 532-6.
16. **Phosphorylation of dopamine transporter serine 7 modulates cocaine analog binding.** 2013. J Biol Chem 288: 20-32.
17. **BDNF is a negative modulator of morphine action.** Science 338: 124-128.

## List of Research/Creative Works:

18. \* [REDACTED] Serum response factor and cAMP response element binding are both required for cocaine induction of delta Fos B. *J Neurosci* 32: 7577-7584.
19. \* [REDACTED] 2012. Essential role for Rac1 in cocaine-induced structural plasticity of nucleus accumbens neurons. *Nat Neurosci* 15: 891-896.
10. \* [REDACTED] 2012. Attention deficit/hyperactivity disorder-derived coding variation in the dopamine transporter disrupts microdomain targeting and trafficking regulation. *J Neurosci* 32: 5385-5397.
21. [REDACTED] Role for mTOR signaling and neuronal activity in morphine-induced adaptations in ventral tegmental area dopamine neurons. *Neuron* 72: 977-990.
22. \* [REDACTED] A novel role for the protein disheveled in the mouse nucleus accumbens in a social defeat model of depression. *J Neurosci* 31: 9084-9092.
23. [REDACTED] Nucleus accumbens dopamine mediates amphetamine-induced impairment of social bonding in a monogamous rodent species. *Proc Natl Acad Sci USA* 107: 1217-1222.
24. \* [REDACTED] 2009. Choline transporter gene variation supports attention-deficit hyperactivity disorder. *J Neurodev Disord* 1: 252-263.
25. [REDACTED] NFkB signaling regulates neuronal morphology and cocaine reward. *J Neurosci* 8: 3529-37.
26. [REDACTED] . 2008. AKT signaling within the ventral tegmental area regulates cellular and behavioral responses to stressful stimuli. *Biol Psychiatry* 64: 691-700.
27. [REDACTED] . Calcium-sensitive adenylyl cyclases in depression and anxiety: behavioral and biochemical consequences of isoform targeting. *Biol Psychiatry* 15: 336-43.

## List of Research/Creative Works:

28. [REDACTED] 2008. *Anomalous dopamine release in attention-deficit hyperactivity disorder*. *J Neurosci* 28: 7040-6. Editor's Choice: [REDACTED] Heading in the wrong direction? *Science Signaling* 1: ec254.
29. [REDACTED] 2008. 7-Nitroindzole attenuates 6-hydroxydopamine-induced spatial learning deficits and dopamine neuron loss in a presynaptic animal model of Parkinson's disease. *Experimental and Clinical Psychopharmacology* 16: 178-89.
30. \* [REDACTED] *Multivariate permutation analysis associates multiple polymorphisms with subphenotypes of major depression*. *Genes Brain Behav* 7:487-95.
31. \* [REDACTED] A polymorphism in the norepinephrine transporter gene alters promoter activity and is associated with attention-deficit hyperactivity disorder. *Proc Natl Acad Sci USA* 103: 19164-9.
32. [REDACTED] *Expression studies of naturally occurring human dopamine transporter variants identifies a novel state of transporter inactivation associated with Val382Ala*. *Neuropharmacology* 49: 737-49.
33. \* [REDACTED]. 2005. *Sequence variation in the human dopamine transporter gene in children with attention deficit hyperactivity disorder*. *Neuropharmacology* 49: 724-36.
34. \* [REDACTED] 2005. *Single nucleotide polymorphisms in the human norepinephrine transporter gene impact expression, trafficking, antidepressant interaction and protein kinase C regulation*. *Mol Pharmacol* 68: 457-66.
35. [REDACTED]. 2002. *Effects of catecholamine uptake blockers in the caudate-putamen and subregions of the medial prefrontal cortex of the rat*. *Brain Res* 936: 58-67.

## Reviews

1. \* [REDACTED]. **Depression.** [REDACTED]  
DOI:10.1002/9780470015902.a0025796.
2. [REDACTED]. *Opiate-Induced Molecular and Cellular Plasticity of Ventral Tegmental Area and Locus Coeruleus Catecholamine Neurons*. *Cold Spring Harbor Perspectives in Medicine* 2: a012070.
3. \* [REDACTED] *Neurotrophic factors and structural plasticity in addiction*. *Neuropharmacology* 56 Suppl 1: 73-82.



**List of Research/Creative Works:** [REDACTED]

**Papers and presentations for learned professional organizations and societies  
(Since 2013)**

1. Society for Neuroscience in San Diego, CA, 2016  
**Determination of morphological and molecular adaptations in ventral tegmental area dopamine neurons by chronic morphine.** [REDACTED]  
[REDACTED]
2. Society for Neuroscience in San Diego, CA, 2016  
**Examination of potential sex differences in the behavior of Rictor knockout mice.** [REDACTED]
3. Society for Neuroscience in San Diego, CA, 2016  
**Drugs of abuse modulate serum- and glucocorticoid-inducible kinase phosphorylation and activity in the ventral tegmental area.** [REDACTED]  
[REDACTED]
4. Society for Neuroscience in San Diego, CA, 2016  
**Drugs of abuse modulate serum- and glucocorticoid-inducible kinase phosphorylation and activity in the ventral tegmental area.** [REDACTED]  
[REDACTED]
5. Annual Biochemical Research Conference for Minority Students in Tampa, FL, 2016  
**Induction of deltaFosB following physical and emotional stress.** [REDACTED]  
[REDACTED]
6. Annual Society for Advancement of Chicanos/Hispanics and Native American Scientists in Long Beach, CA, 2016  
**Induction of deltaFosB following physical and emotional stress.** [REDACTED]  
[REDACTED]
7. Michigan Society for Neuroscience in East Lansing, MI, 2016  
**Drugs of abuse modulate serum- and glucocorticoid-inducible kinase phosphorylation and activity in the ventral tegmental area.** [REDACTED]  
[REDACTED]
8. Michigan Society for Neuroscience Annual Meeting in East Lansing, MI, 2016  
**Determination of morphological and molecular adaptations in ventral tegmental area dopamine neurons by chronic morphine.** [REDACTED]  
[REDACTED]
9. Michigan Society for Neuroscience Annual Meeting in East Lansing, MI, 2016  
**The effect of ventral tegmental area Rictor knockout on susceptibility to chronic social defeat stress and stress-induced changes in morphine reward.**  
[REDACTED]
10. Experimental Biology/ASPET meeting in San Diego, CA, 2016  
**The effect of ventral tegmental area Rictor knockout on susceptibility to chronic social defeat stress and stress-induced changes in morphine reward.**  
[REDACTED]

**List of Research/Creative Works:** [REDACTED]

11. American College of Neuropsychopharmacology in Fort Lauderdale, FL, 2015  
**Physical and emotional stress alter voluntary morphine consumption and ventral tegmental area TORC2 signaling.** [REDACTED]  
[REDACTED]
12. Society for Neuroscience in Chicago, IL, 2015  
**Investigation of biochemical changes induced by chronic morphine and stress in the ventral tegmental area.** [REDACTED]  
[REDACTED]
13. Society for Neuroscience in Chicago, IL, 2015  
**Physical and emotional stress alter voluntary morphine consumption ventral tegmental area gene expression.** [REDACTED]
14. Society for Neuroscience in Chicago, IL, 2015  
**FosB expression in ventral hippocampus regulates behavior in the social defeat model of depression.** [REDACTED]  
[REDACTED]
15. Experimental Biology/ASPET meeting in Boston, MA, 2015  
**Role of ventral tegmental area TORC2 signaling in stress-induced morphine reward.** [REDACTED]
16. Gordon Research Conference on Catecholamines in Newry, ME, 2015  
**Physical and emotional stress alter voluntary morphine consumption ventral tegmental area TORC2 signaling.** [REDACTED]  
[REDACTED]
17. Michigan Society for Neuroscience Annual Meeting in Mt. Pleasant, MI, 2015  
**Role of ventral tegmental area TORC2 signaling in stress-induced morphine reward.** [REDACTED]
18. Michigan Society for Neuroscience Annual Meeting in Mt. Pleasant, MI, 2015  
**Physical and emotional stress alter voluntary morphine consumption ventral tegmental area gene expression.** [REDACTED]
19. Annual Biochemical Research Conference for Minority Students in Seattle, WA, 2015  
**Induction of deltaFosB following physical and emotional stress.** [REDACTED]  
[REDACTED]
20. Annual Society for Advancement of Chicanos/Hispanics and Native American Scientists in Washington, DC, 2015  
**Induction of deltaFosB following physical and emotional stress.** [REDACTED]  
[REDACTED]
21. American College of Neuropsychopharmacology in Phoenix, AZ, 2014  
**Determining a role for Rictor in susceptibility to stress and morphine reward and consumption.** [REDACTED]
22. Society for Neuroscience in Washington DC, 2014

**List of Research/Creative Works:**

**Role of mTORC2 in the ventral tegmental area in stress and opiate behaviors.**

23. Society for Neuroscience in Washington DC, 2014  
**Physical and psychological stress increase voluntary morphine consumption.**
24. Society for Neuroscience in Washington DC, 2014  
***Region-specific induction of FosB isoforms in mouse brain after stress or chronic fluoxetine exposure.***
25. Society for Neuroscience in Washington DC, 2014  
**The single prolonged stress (SPS) model of posttraumatic stress disorder (PTSD) induces a ptsd-like phenotype in male rats but a depressive-like phenotype in female rats.**
26. American College of Neuropsychopharmacology in Fort Lauderdale, FL, 2013  
**Susceptibility to chronic social defeat stress increases morphine reward.**
27. Society for Neuroscience in San Diego, CA, 2013  
***B-catenin mediates the development of behavioral resilience.***
28. Society for Neuroscience in San Diego, CA, 2013  
***Phasic firing-specific regulation of bdnf in vta-to-nac pathway is stress-contextual dependent.***
29. Gordon Research Conference on Catecholamines in Mount Snow, VT, 2013  
***Morphine and cocaine increase serum- and glucocorticoid-regulated kinase 1 activity in the ventral tegmental area.***

# COLLEGE OF NATURAL SCIENCE

## Funded Grants Only

Title	Principal Investigator	Co-Principal Investigators	Awarding Agency	Effective Dates	Total Amount Awarded Including Indirect Costs	Total Amount Awarded to Candidate Including Indirect Costs	Indirect Cost Rate	Nature of Candidate's Participation (if not P.I.)
Role of serum- and glucocorticoid-inducible kinase 1 in a novel model of co-morbid opiate use and mood disorders	[REDACTED]		PhRMA Foundation	2/1/14-1/31/15	\$100,000	\$100,000	0%	
A novel emotional stress model of co-morbid opiate use and mood disorders	[REDACTED]		NIH, NIDA	2/1/15-1/31/16	\$115,125	\$115,125	53.5%	
Role of TORC2 activity in stress-induced changes in opiate reward and consumption	[REDACTED]		PhRMA Foundation	3/28/16-3/27/18	\$40,000	\$40,000	0%	Mentor
Neurobiological mechanisms underlying stress-induced changes	[REDACTED]		NIH, NIDA	9/15/16-6/30/21	\$1,679,176	\$1,679,176	55%	

in opiate reward								

[To add another row to the table, push the tab key in the very last cell.]

From the *CNS P&T Guidelines* revised November 21, 2013:

\*A list of all the candidate's funded grants (using the *CNS Funded Grants Only* worksheet) including the following in order: title, principal investigator, all co-principal investigators (unless prohibitively many), awarding agency, effective dates, total amount awarded, *total amount awarded to the candidate*, whether these amounts include indirect costs or not, and *the nature of the candidate's participation in the grant if not P.I.*

## FORM D - IV C SERVICE WITHIN THE ACADEMIC AND BROADER COMMUNITY

### 1. Service within the Academic Community

#### a. Service to Scholarly and Professional Organizations:

List significant committee/administrative responsibilities in support of scholarly and professional organizations (at the local, state, national, and international levels) including: elected and appointed offices held; committee memberships and memberships on review or accreditation teams; reports written and submitted; grants received in support of the organization (refer to Form D-IVE); editorial positions, review boards and ad hoc review requests; and programs and conferences planned and coordinated, coordinated or served on a panel or chaired a session. Include evidence of contributions (e.g., evaluations by affected groups or peers).

#### Grant Peer Review

- 11/12/15 NIH Study Section (ZDA1 JXR-G, “Harnessing genome editing technologies to functionally validate genetic variants in substance use disorders)
- 2/8/16 – 2/9/16 NIH Study Section (Molecular Neuropharmacology and Signaling (MNPS))

#### Manuscript Peer Review

Ad hoc reviewer of more than 40 total manuscripts for the following journals:

Behavioral Brain Research  
Brain Research  
Biological Psychiatry  
Hippocampus  
International Journal of Neuropsychopharmacology  
Journal of Neurochemistry  
Journal of Neuroscience  
Molecular Autism  
Molecular Metabolism  
Molecular Psychiatry  
Molecular Pharmacology  
Neuropeptide  
Neuropsychopharmacology  
Physiology and Behavior  
Translational Psychiatry

#### Memberships in Professional Societies:

- Society for Neuroscience: 2000 - Present
- American Society for Pharmacology and Experimental Therapeutics: 2013 - Present
- Faculty for Undergraduate Neuroscience: 2013 - Present

#### b. Service within the University:

List significant committee/administrative responsibilities and contributions within the University. Include service that advances the University’s equal opportunity/affirmative action commitment. Committee service includes: appointed and elected university, college, and department ad hoc or standing committees, grievance panels, councils, task forces, boards, or graduate committees. Administrative responsibilities include: the direction/coordination of programs or offices; admissions; participation in special studies or projects; collection development, care and use; grants received in support of the institution (refer to Form D-IVE), etc. Describe roles in any major reports issued, policy changes recommended and implemented, and administrative units restructured. Include evidence of contributions (e.g., evaluations by peers and affected groups).

#### University Service:

2013 - Present Interview prospective incoming Neuroscience Program Graduate Students and participate in recruitment lunches and dinners and poster session

**FORM D - IV C SERVICE WITHIN THE ACADEMIC AND BROADER COMMUNITY**

2013 - Present	Interview prospective incoming Biomedical Sciences Graduate Students
2014 - Present (2016 – Present)	Physiology Department Graduate Affairs Committee Chair
2015 - Present	Physiology Department Systems Neuroscience Search Committee
2015 – Present	Neuroscience Program Graduate Comprehensive Exam Committee (Translational)
2016	Neuroscience Program Reappointment, Promotion, and Tenure (RPT) Committee
2016 - Present	College of Natural Science, Associate Dean for Faculty Development Search Committee



## **FORM D - IV C SERVICE WITHIN THE ACADEMIC AND BROADER COMMUNITY, continued**

### **2. Service within the Broader Community:**

As a representative of the University, list significant contributions to local, national, or international communities that have not been listed elsewhere. This can include (but is not restricted to) outreach, MSU Extension, Professional and Clinical Programs, International Studies and Programs, and Urban Affairs Programs. Appropriate contributions or activities may include technical assistance, consulting arrangements, and information sharing; targeted publications and presentations; assistance with building of external capacity or assessment; cultural and civic programs; and efforts to build international competence (e.g., acquisition of language skills). Describe affected groups and evidence of contributions (e.g., evaluations by affected groups; development of innovative approaches, strategies, technologies, systems of delivery; patient care; awards). List evidence, such as grants (refer to Form D-IVE), of activity that is primarily in support of or emanating from service within the broader community.

#### **Outreach Presentations**

03/2014      Gave Brain Awareness Week presentation to 1<sup>st</sup> grade class at Cornell Elementary School

## FORM D - IV D ADDITIONAL REPORTING

### 1. Evidence of Other Scholarship:

Cite evidence of “other” scholarship as specified on p. 2 in the “summary rating” table (i.e., functions outside of instruction, research and creative activity, and service within the academic and broader community). Address the scholarship, significance, impact, and attention to context of these accomplishments.

### 2. Integration across Multiple Mission Functions:

Discuss ways that your work demonstrates the integration of scholarship across the mission functions of the university—instruction, research and creative activities, and service within the academic and broader community.

My work seeks to understand how molecular and structural changes in dopamine neurons within the ventral tegmental area contribute to neuropsychiatric disorders, in particular drug addiction and mood disorders. I have integrated my research interests into the teaching mission of the university by teaching in both undergraduate and graduate courses that cover the molecular mechanisms underlying drug abuse and depression as well as the normal physiology and activity of the ventral tegmental area and the brain reward circuit. This instructional activity also occurs within my lab, as I help undergraduate and graduate students understand the primarily literature that informs their research projects. We are also publicizing our research findings on the role of the ventral tegmental area signaling changes in neuropsychiatric disorders to the broader academic community through presentations at national meetings and publication of peer-reviewed manuscripts, and invited review articles. I also utilize my research expertise to serve the broader academic community by reviewing manuscripts and serving grant review panels (National Institute of Health study sections). Finally, I hope to disseminate my research interests and findings to the broader community through direct participation, as well as participation of my trainees, in outreach activities hosted by the Neuroscience Program and Dept. of Physiology (such as the Neuroscience Fair, Brain Awareness Week, and PhUn day). As my research program grows, I envision these activities will also grow proportionally, extending the influence of my work both within MSU and in the greater academic and lay community.

### 3. Other Awards/Evidence:

Cite other distinctive awards, accomplishments of sabbatical or other leaves, professional development activities, and any other evidence not covered in the preceding pages. (If the reporting period differs from the usual review period, then justify and support that period here.)

## FORM D - IV E GRANT PROPOSALS

List grant proposals submitted during reporting period relating to teaching, research and creative activities, or service within the academic and broader community. Include grants in support of outreach, international, urban, and extension activities.\*

Name of Granting Agency (Grantor:) Focus of Grant (Focus:)		Date Submitted	\$ Amount Requested	Pending	Status \$ Amt Funded Not Funded		\$ Amount Assigned to Faculty Candidate (if Applicable)	Principal/Co-Investigators (if not faculty candidate)
<b>I. Instruction</b>								
Grantor:				<input type="checkbox"/>		<input type="checkbox"/>		
Focus:								
Grantor:				<input type="checkbox"/>		<input type="checkbox"/>		
Focus:								
<b>II. Research/Creative Activity</b>								
1	Grantor: Brain and Behavior Research Foundation	1/2013	\$60,000	<input type="checkbox"/>		X		Principal Investigator
Focus: Molecular networks supporting risk and resilience to depression								
2	Grantor: Whitehall Foundation	4/2013	\$225,000	<input type="checkbox"/>		X		Principal Investigator
Focus: Structural plasticity in reward learning								
3	Grantor: National Institute on Drug Abuse	6/2013	109,002	<input type="checkbox"/>		X		Principal Investigator
Focus: A novel emotional stress model of co-morbid opiate use and mood disorders								
4	Grantor: National Institute of Health	9/2013	\$374,240	<input type="checkbox"/>		X		<div style="background-color: black; width: 100px; height: 1.2em;"></div>
Focus: Metabolic and hedonic feeding in obesity								
5	Grantor: PhRMA Foundation	1/2014	100,000	<input type="checkbox"/>	100,000		100,000	Principal Investigator

\*Anyone with an MSU Net username and password can log onto the web-based Information Reference database, maintained by the Office of Contract and Grant Administration, to search for records of proposals and grant awards by principal investigator. Printouts may be attached to this page.

# FORM D - IV E GRANT PROPOSALS

FORM IV-E GRANT PROPOSALS								
	Name of Granting Agency (Grantor:) Focus of Grant (Focus:)	Date Submitted	\$ Amount Requested	Pending	Status \$ Amt Funded	Not Funded	\$ Amount Assigned to Faculty Candidate (if Applicable)	Principal/Co-Investigators (if not faculty candidate)
	Focus: Role of serum- and glucocorticoid-inducible kinase 1 in a novel model of co-morbid opiate use and mood disorders							
6	Grantor: National Institute on Drug Abuse, NIH	3/2014	\$115,125	<input type="checkbox"/>	\$115,125		\$115,125	Principal Investigator
	Focus: A novel emotional stress model of co-morbid opiate use and mood disorders							
7		8/2014	\$50,000			X		Principal Investigator
	Focus: Role of serum- and glucocorticoid-inducible kinase 1 in stress-induced changes in opiate consumption							
8	Grantor: National Institute on Drug Abuse, NIH	10/2014	\$1,851,037			X		Principal Investigator
	Focus: Neurobiological mechanisms underlying stress-induced changes in opiate reward							
9	Grantor: National Institute on Drug Abuse, NIH	12/2014	\$157,143			X		Mentor
	Focus: Role of TORC2 activity in stress-induced changes in opiate reward and consumption							
10	Grantor: Whitehall Foundation	4/2015	\$225,000			X		Principal Investigator
	Focus: Identifying circuit-specific molecular mechanisms of reward							
11	Grantor: National Institute on Drug Abuse, NIH	6/2015	\$1,848,959		\$1,679,176		\$1,679,176	Principal Investigator
	Focus: Neurobiological mechanisms underlying stress-induced changes in opiate reward							
12	Grantor: Peter F McManus Charitable Trust	8/2015	\$50,000			X		Principal Investigator
	Focus: Identifying circuit-specific molecular mechanisms of opiate addiction							
13	Grantor: PhRMA Foundation	8/2015	\$40,000		\$40,000		\$40,000	
	Focus: Role of TORC2 activity in stress-induced changes in opiate reward and consumption							
14	Grantor: National Institute on Drug Abuse, NIH	12/2015	\$92,720			X		Mentor
	Focus: Determination of morphological and molecular adaptations in ventral tegmental area dopamine neurons by chronic morphine							
15	Grantor: National Institute on Drug Abuse, NIH	2/2016	\$1,867,493			X		Principal Investigator
	Focus: Neurobiological mechanisms underlying stress-induced changes in opiate reward							
16	Grantor: MSU- Strategic Partnership Grants	2/2016	\$400,000			X		Co-PI
	Focus: Neurobiology of sex differences in psychiatric disease							
17	Grantor: National Institute on Drug Abuse, NIH	6/2016	\$1,865,753	X				Principal Investigator
	Focus: Role for ventral tegmental area SGK1 in drug reward and relapse							

\*Anyone with an MSU Net username and password can log onto the web-based Information Reference database, maintained by the Office of Contract and Grant Administration, to search for records of proposals and grant awards by principal investigator. Printouts may be attached to this page.

# FORM D - IV E GRANT PROPOSALS

	Name of Granting Agency (Grantor:) Focus of Grant (Focus:)	Date Submitted	\$ Amount Requested	Pending	Status \$ Amt Funded Not Funded		\$ Amount Assigned to Faculty Candidate (if Applicable)	Principal/Co-Investigators (if not faculty candidate)
18	Grantor: Helen Hay Whitney Foundation	6/2016	\$160,500	X				[REDACTED]
	Focus: The role of serum and glucocorticoid-inducible kinase 1 activity in the ventral tegmental area on drug seeking and reward behaviors							
19	Grantor: National Institute on Drug Abuse, NIH	8/2016	\$57,958	X				[REDACTED] [REDACTED]
	Focus: Determination of morphological and molecular adaptations in ventral tegmental area dopamine neurons by chronic morphine							
20	Grantor: National Institute of Health	8/2016	\$2,458,470	X				[REDACTED] [REDACTED]
	Focus: Off-target implications of Nurr1 agonist therapy in PD							
21	Grantor: Peter F McManus Charitable Trust	8/2016	\$50,000	X				Principal Investigator
	Focus: Inhibition of SGK1 activity as a novel therapeutic approach for the treatment of drug addiction							
	Grantor:							
	Focus:							
	Grantor:							
	Focus:							
	Grantor:							
	Focus:							
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	Focus:							
	Grantor:							
	Focus:							
	Grantor:							
	Focus:							
	Grantor:							
	Focus:							
	Grantor:							
	<b>ii. Professional/Patient Care Activities</b>							
	Grantor:							

\*Anyone with an MSU Net username and password can log onto the web-based Information Reference database, maintained by the Office of Contract and Grant Administration, to search for records of proposals and grant awards by principal investigator. Printouts may be attached to this page.

## FORM D - IV E GRANT PROPOSALS

Name of Granting Agency (Grantor:) Focus of Grant (Focus:)		Date Submitted	\$ Amount Requested	Status			\$ Amount Assigned to Faculty Candidate (if Applicable)	Principal/Co-Investigators (if not faculty candidate)
				Pending	\$ Amt Funded	Not Funded		
Focus:								
				<input type="checkbox"/>		<input type="checkbox"/>		
<b>iii. International Studies and Programs</b>								
Grantor:								
Focus:								
				<input type="checkbox"/>		<input type="checkbox"/>		
<b>vi. Urban Affairs Programs</b>								
Grantor:								
Focus:								
				<input type="checkbox"/>		<input type="checkbox"/>		
<b>v. Other</b>								
Grantor:								
Focus:								