



Allison Zank &lt;allisonzank@gmail.com&gt;

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**2016 NSF Graduate Research Fellowship Program Notification**

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info@nsfgrfp.org &lt;info@nsfgrfp.org&gt;

Tue, Mar 29, 2016 at 4:05 AM

Reply-To: info@nsfgrfp.org

To: "allisonzank@gmail.com" &lt;allisonzank@gmail.com&gt;



**National Science Foundation**  
**Directorate for Education and Human Resources**  
**Division of Graduate Education**  
4201 Wilson Boulevard, Arlington, Virginia 22230

March 29, 2016

Allison Zank  
3200 Emerson Ave S #104  
Minneapolis, MN 55408

Application Number: 1000179620

Dear Allison Zank:

I am pleased to inform you that you have been selected to receive a 2016 National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellowship. Your selection was based on your demonstrated potential to contribute to strengthening the vitality of the U.S. science and engineering enterprise. **Please read carefully and follow the instructions** in the next pages for GRFP Fellowship Terms and Conditions, your responsibilities, and how to formally accept your Fellowship, declare fellowship status, and view your rating sheets.

The stipend for 2016-17 is \$34,000 per twelve-month Fellowship Year, given in increments of \$2,833 per month. The GRFP Fellowship period is 5 years, or less if you graduate and complete the fellowship before the 5-year period ends. Financial support is provided for a maximum of three years. The financial support may be used in any three 12-month units, starting in summer (June 1) or fall (September 1) over the five-year period that begins in 2016 (your award year). Your institution will receive a \$12,000 Cost of Education Allowance in lieu of all required tuition and fees for each of the three years you choose to utilize the fellowship funding.

We encourage you to take advantage of professional development opportunities offered through the GRFP; for example, Graduate Research Opportunities Worldwide (<http://www.nsf.gov/grow>) and the Graduate Research Internship Program (<http://www.nsf.gov/grip>). Email notifications and "Dear Colleague Letters" on the [www.nsf.gov](http://www.nsf.gov) web site are the typical vehicle for communications of this nature.

Your selection as an NSF Graduate Fellowship awardee is a significant accomplishment. We wish you success in your graduate studies in science or engineering, and continued success in achieving your career aspirations. We look forward to learning about your achievements and contributions during your graduate study and beyond.

Sincerely,



Dean Evasius  
Division Director  
Division of Graduate Education

Dear Awardee,

Please read all of the information below and complete the required tasks before the deadline of May 1 (11:59 pm ET). On behalf of the Graduate Research Fellowship Program, we extend a warm welcome to the NSF community.

Sincerely,

Gisèle Muller-Parker, Joerg Schlatterer, Susan Brennan, Erick Jones  
GRFP Program Directors

- You must formally accept the award and agree to the Terms and Conditions of the Fellowship by May 1, 2016 (11:59 pm ET). Visit the NSF GRFP FastLane website (<https://www.fastlane.nsf.gov/grfp/>) to review the eligibility requirements, certifications, terms and conditions, and to electronically accept or decline this Fellowship. Please note: failure to meet the May 1 deadline to Accept/Decline the Offer will result in revocation of the fellowship offer. Upon acceptance of the award, the GRFP Fellowship cannot be concurrently held or combined with another U.S. Government Federal Fellowship.
- The "Administrative Guide" link on the NSF GRFP FastLane (<https://www.fastlane.nsf.gov/grfp/>) website opens the NSF GRFP Administrative Guide for Fellows & Coordinating Officials (Guide). This document includes the Terms and Conditions that apply to your Fellowship, in addition to the eligibility requirements and Certifications. You will need to complete the Certifications section on the GRFP FastLane website (see below). These are the same certifications you have already attested to in the application. Failure to comply with the Fellowship Terms and Conditions will result in revocation of the Fellowship.
- Acceptance of the Fellowship constitutes a commitment to pursue a graduate degree in an eligible science or engineering field, as described in the Program Solicitation ([www.nsf.gov/GRFP/](http://www.nsf.gov/GRFP/)). Acceptance of a Fellowship award is an explicit acceptance of this commitment and assurance that you will be duly enrolled in a graduate degree program consistent with the field of study proposed in your application by the beginning of Fall 2016.
- All Fellows from the date of Acceptance through Completion or Termination of the Fellowship must be affiliated with a degree-granting institution accredited in, and having a campus located in, the United States, its territories, or possessions, or the Commonwealth of Puerto Rico that grants degrees in a GRFP-supported field.
- Familiarize yourself with the NSF GRFP FastLane website (accessed by logging in at: <https://www.fastlane.nsf.gov/grfp/>), as most GRFP actions and requests are handled through this site. The Guide contains the administrative policies and procedures for Fellows and GRFP Institutions. Please review it before contacting your Coordinating Official (CO) or the Program Office.
- You should contact the GRFP Coordinating Official at your intended institution of graduate study to inform her/him that you have accepted an NSF GRFP Fellowship. The Institution Directory is located at <https://www.fastlane.nsf.gov/grfp/>. The CO will assist you in effectively managing your Fellowship and should be your first point of contact in the event the Guide does not answer your questions.
- Following acceptance of the Fellowship you will need to declare your Fellowship Status by **May 1, 2016 (11:59 pm ET)** through the NSF GRFP FastLane website. Fellowship Status is explained in the

**Guide.** The Fellowship Status Declaration period is open and will close **May 1, 2016 (11:59 pm ET)** (Note: The deadlines for accepting the Fellowship and declaring your Fellowship Status are the same, therefore plan accordingly.)

There are two sections that Fellows have to complete. In the *Enter Fellowship Status Plans* section, Fellows are required to enter their Fellowship Status (Tenure or Reserve) for the upcoming year. In the *Enter Tenure and Reserve Plans* section, Fellows indicate how they envision utilizing tenure and reserve years over the five year Fellowship period. (Note: this feature helps the GRFP to forecast and allocate funding in the years ahead; it is not viewed as a permanent decision on your part, and the GRFP realizes that opportunities may come up that alter your five year plans.)

- Fellows are expected to make satisfactory academic progress towards completion of their graduate degrees, as defined and certified by the Fellow's GRFP institution. Upon completion of each year of your Fellowship, you are required to submit an Annual Activities Report that documents your activities, accomplishments, progress, and productivity. All Fellows are required to submit the Annual Activities Report by May 1, via the GRFP FastLane Module. Before May 1 of each year, your Annual Activities Report must be reviewed and approved by your Academic/Research Advisor, who signs the Academic/Research Advisor Confirmation Form. This Form is submitted as part of your Annual Activities Report. The Coordinating Official of the GRFP Institution will then certify your eligibility and satisfactory progress, required for fellowship continuance.
- In response to the America Competes Act, all Fellows are required to receive appropriate training and oversight in the responsible and ethical conduct of research. Please check with the campus CO about the Responsible Conduct of Research training requirement at your (intended) institution.
- Fellows are responsible for obtaining appropriate permissions and complying with all institutional policies concerning human subjects, hazardous materials, vertebrate animals, or endangered species and copyright and intellectual property.
- All publications, presentations, and creative works based on activities conducted during the Fellowship must acknowledge NSF GRFP support and provide a disclaimer (see Guide).
- Fellows are eligible to apply for supercomputing time through the NSF-supported Extreme Science and Engineering Discovery Environment (XSEDE) and for Facilitation Awards for Scientists and Engineers with Disabilities (FASSED). These opportunities are described in the Guide.
- GRFP institutions may submit Career Life Balance (CLB) supplemental funding requests (NSF 13-099; <http://www.nsf.gov/pubs/2013/nsf13099/nsf13099.jsp?org=EHR>) to sustain the research of active NSF Graduate Research Fellows who have been granted an NSF-approved medical deferral for dependent-care (family leave) situations.
- Please ensure that the following email address, and other email addresses from @nsf.gov, is not subject to a spam filter: [grfp@nsf.gov](mailto:grfp@nsf.gov). The GRFP Office will send out notices and updates using this address. Keep your contact information and email addresses current, as NSF will use your email address to communicate with you on a regular basis about related opportunities (e.g., GROW and GRIP).
- Your name is included in the Fellowship Awardee list. The NSF publishes lists of Fellowship Awardees and Honorable Mention recipients on the GRFP website at <http://www.fastlane.nsf.gov/grfp> by early April 2016.
- You may consider becoming a member of the *GRFP Fellows & Alumni Network* on LinkedIn.

Applications were reviewed according to the NSF Merit Review Criteria of Intellectual Merit and Broader Impacts. To view your application reviews, please navigate to the NSF GRFP FastLane website and log in using your FastLane GRFP login credentials.

Navigate to <https://www.fastlane.nsf.gov/grfp/>.

Login with your FastLane GRFP Username and Password.

The "View/Print Application Reviews" link will be available in your Fellows Optional Task List on the home page.

To view the Review Ratings sheets in a printable Adobe PDF version, click the "View PDF" icon.

**It is recommended that you print or save a copy of the Reviews PDF for your records now, as these will not be available after July 15, 2016.**

If you have problems accessing your reviews, please send an e-mail to [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

Any other questions pertaining to the reviews should be directed to [info@nsfgrfp.org](mailto:info@nsfgrfp.org).

### Certifications by Fellow

You must read and agree to all the certifications and terms and conditions as indicated in the information below before your award acceptance can be submitted.

There are five certifications which must be made before the National Science Foundation can authorize funds for a fellowship award. These concern: 1) controlled substances; 2) delinquency on Federal debt; 3) debarment and suspension; 4) originality of the application; and 5) eligibility criteria.

### **I certify that:**

1. I will not engage in unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in the conduct of any activity with this fellowship award.
2. I am not delinquent on repayment of any Federal debt.
3. To the best of my knowledge and belief,
  - (a) I am not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) I have not within a three-year period preceding my application been convicted of or had a civil judgment rendered against me for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) I am not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (3) (b) of this certification;
  - (d) I have not within a three-year period preceding this application had one or more public transactions (Federal, State or local) terminated for cause or default.
4. I certify that the two Statements (Personal, Relevant Background and Future Goals Statement, and Graduate Research Plan Statement) in my application are my own original work.
5. I have read the NSF GRFP eligibility criteria and I certify that to the best of my knowledge and belief I am eligible for this fellowship. [See Section IV of the Program Solicitation for eligibility criteria (Fellows who are, or who will, enroll in a graduate degree program while on a leave of absence from a professional degree program or professional degree-graduate degree joint program are ineligible for a Graduate Research Fellowship)].

By electronically signing the request, I am certifying that (a) the statements made herein are true and complete

4/6/2016

Gmail - 2016 NSF Graduate Research Fellowship Program Notification

to the best of my knowledge; (b) I have not previously accepted an NSF Graduate Research or Predoctoral Fellowship; and (c) I have read and agree to comply with NSF GRFP Fellowship Terms and Conditions if the fellowship offer is accepted. I understand that if I accept the offer, failure to comply with the Fellowship Terms and Conditions will result in revocation of the fellowship.

Willful provision of false information in this request and its supporting documents or in reports required under an ensuing award is a criminal offense (U.S. Code, Title 18, Section 1001).

This email was sent to allisonzank@gmail.com. If you are no longer interested you can [unsubscribe instantly](#).

# FW: NSF GRFP Fellow Change Request

Melissa Nielsen

Mon 5/13/2019 1:10 PM

To: Sydney Durrstein <sdurrstein@uwlax.edu>;

For our records.

**From:** grfp@nsf.gov <grfp@nsf.gov>

**Sent:** Monday, May 13, 2019 11:30 AM

**To:** Jason Steiner <jsteiner@uwlax.edu>; Linda Leopold <lleopold@uwlax.edu>; Spencer Green <sgreen@uwlax.edu>; Donald Rauls <drauls@uwlax.edu>; Melissa Nielsen <mnielsen@uwlax.edu>; ssimpson@uwlax.edu <ssimpson@uwlax.edu>

**Subject:** NSF GRFP Fellow Change Request

To: GRFP Coordinating Official ([jsteiner@uwlax.edu](mailto:jsteiner@uwlax.edu); [lleopold@uwlax.edu](mailto:lleopold@uwlax.edu); [sgreen@uwlax.edu](mailto:sgreen@uwlax.edu); [drauls@uwlax.edu](mailto:drauls@uwlax.edu); [mnielsen@uwlax.edu](mailto:mnielsen@uwlax.edu); [ssimpson@uwlax.edu](mailto:ssimpson@uwlax.edu))

An NSF GRFP fellow has requested a change to their NSF GRFP fellowship. Please logon to GRFP to review and approve this change request.

## Change Request Details

Fellow Name: Allison Zank

Fellow ID: 2016179620

Previous Fellowship Status: On Tenure

New Fellowship Status: On Reserve

[Click here to logon to GRFP](#)

Fw: Award Id : 1452782, PI: Thomsen

Melissa Nielsen

Wed 7/11/2018 3:15 PM

To: Sydney Durrstein <sdurrstein@uwlax.edu>;

For our NSF GRFP file

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**From:** lfarrior@nsf.gov <lfarrior@nsf.gov>  
**Sent:** Wednesday, July 11, 2018 1:26 PM  
**To:** Research and Sponsored Programs  
**Cc:** dgaawd@nsf.gov; sholland@nsf.gov; jhahm@nsf.gov  
**Subject:** Award Id : 1452782, PI: Thomsen

AWARD NOTICE

Award Date:	July 11, 2018
Award No. (FAIN):	1452782
Amendment No.:	005
Proposal No.:	1840806

Melissa Nielsen  
Director, Research & Sponsored Programs  
The University of Wisconsin, La Crosse  
1725 State Street  
La Crosse, WI 54601-3742  
DUNS ID: 068191097

Dear Ms. Nielsen:

The National Science Foundation hereby awards \$46,000 to The University of Wisconsin, La Crosse for additional support of the project being funded by the above-referenced award .

This project, under the direction of, is entitled:

"Graduate Research Fellowship Program (GRFP)."

This award with this amendment totals \$276,000 and ends August 31, 2019.

This grant is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75).

Except as modified by this amendment, the grant conditions remain unchanged.

The cognizant NSF program official for this grant is Jong-on Hahm, (703) 292-0000.  
The cognizant NSF grants official is Regina M Alexander-Pinkney, (703) 292-8453.

Sincerely,

LeVar Rashawn Farrior  
Grants and Agreements Officer



National Science Foundation  
2415 Eisenhower Ave., Alexandria VA, 22314  
Directorate for Education and Human Resources  
Division of Graduate Education

Approved Date: 05/30/2018

**Institution:** University of Wisconsin-La Crosse

**Award ID:** 1452782

**Project:** Graduate Research Fellowships

**Principal Investigator:** Thomsen, Meredith

**Funding Increment:** Summer

**Is this Incremental Funding:** No

I recommend that University of Wisconsin-La Crosse be awarded \$46,000.00 in support of the project Graduate Research Fellowships. This project will be under the direction of Principal Investigator Thomsen, Meredith

The recommended total funding provides a maximum Stipend of \$34,000.00 (taxable) and a Cost-of-Education allowance of \$12,000.00 per Fellow per fellowship year and is based on the following estimates:

**Fellowship Year 2018-2019**

		Fellows	Tenure Costs
<b>Total Active Fellows:</b>		2	--
Total Fellows: 12-Month Tenure		1	--
Stipend	\$34,000.00	1	\$34,000.00
Cost-of-Education Allowance	\$12,000.00	1	\$12,000.00
Total Fellows: < 12 Months Tenure			
Stipend		0	\$0.00
Cost of Education Allowance		0	\$0.00
<b>Additional Funding Opportunity</b>			
GROW	\$5,000.00	--	--
GRIP	\$5,000.00	--	--
<b>Grants Roster Report Total</b>			<b>\$46,000.00</b>
<b>Adjustments</b>			
Carryover Funds From Previous Years/Award		--	--
Plus Adjustments from Previous Years/Award		--	--
Summer Increment		--	--
GROW Funding		--	--
GRIP Funding		--	--



Other	--	--
<b>Total Estimated Funding Requirement</b>		<b>\$46,000.00</b>
<b>Summer Increment Award Recommendation</b>		
<b>Source of Funding</b>		
OIA (01060400-0118-7172-7172/4103)		\$46,000.00
<b>Summer Increment Total</b>		<b>\$46,000.00</b>
<b>Estimated Balance Due</b>		<b>\$0.00</b>

APPROVED

\_\_\_\_\_  
Jong-on Hahm

Program Director, Graduate Research Fellowship Program

# University of Wisconsin-La Crosse

## GRANT/CONTRACT TRANSMITTAL FORM

Last updated: 07/2013

Office Use Only: Date Received: 4/26/15

Database Entry By: SLD

- To use this form, use the tab key to complete each section, beginning with Sponsor Information.
- This transmittal form must be completed for all extramural funding including subcontracts with other institutions.
- Please see the website for current consultation, budget review, and submission deadlines.
- A copy of the full proposal must be submitted to Grants Office within three (3) business days after the proposal submission.

<b>Funding Agency</b> National Science Foundation		<b>Proposal Submission Deadline:</b>	
<b>Address</b> Arlington, VA		<input type="checkbox"/> Electronic Submission-Grants Office	
<b>PI/PD:</b> Allison Zank		<input type="checkbox"/> Mailed by PI/PD	
<b>Co-Investigator:</b> William Schwan		<b>Department/Division:</b>	Microbiology
<b>Co-Investigator:</b>		<b>Department/Division:</b>	Microbiology
<b>Project Title:</b> NSF Graduate Research Fellowship			
<b>Proposal Type:</b>	<input checked="" type="checkbox"/> New <input type="checkbox"/> Supplement <input type="checkbox"/> Renewal/Continuation	<b>Grant Begin Date:</b> 6/1/16	<b>Grant End Date:</b> 5/31/19
<b>Total Request:</b> \$138,000	<b>Direct:</b> \$138,000	<b>Indirect/overhead*:</b> \$	
* If no or reduced overhead is included, provide documentation from the funding agency regarding their policy.			
<b>Cost-sharing Information:</b>	<input type="checkbox"/> Required <input type="checkbox"/> Voluntary <input type="checkbox"/> In-Kind (If in-kind box is checked, attach a brief statement or description)		
<input type="checkbox"/> Cash	<b>Amount \$</b>	<input checked="" type="checkbox"/> SAH <input type="checkbox"/> CLS <input type="checkbox"/> CBA <input type="checkbox"/> OTHER	<b>Dean / Division Director's Signature</b>
<b>OR <input type="checkbox"/> University</b>	<b>Amount \$</b>		

### BUDGET RELATED CLEARANCES – does the project involve:

Funds in the budget for hiring new personnel?

Funds in the budget for faculty reassigned time?

Funds in the budget for hiring graduate/undergraduate assistant (s)?

Action involving space, remodeling, or construction (current or future)?

Any collaborators?

☐ Internal

☐ External

- |  |   |
|--|---|
| <input type="checkbox"/> No            | <input checked="" type="checkbox"/> Yes |
| <input checked="" type="checkbox"/> No | <input type="checkbox"/> Yes            |
| <input type="checkbox"/> No            | <input checked="" type="checkbox"/> Yes |
| <input checked="" type="checkbox"/> No | <input type="checkbox"/> Yes            |
| <input type="checkbox"/> No            |   |

If yes is checked for a budget-related clearance, the Dean / Division Director should indicate approval by initialing here:

*[Signature]*

### COMPLIANCE CLEARANCES – check those that apply:

- ☐ IRB ☐ IACUC ☒ IBC ☒ Chemical/physical safety ☒ RCR (NSF only) ☒ FCOI (all federal) ☐ International travel / partnerships

**FOR NSF GRANTS:** All investigators must complete and submit the RCR Student Training Plan Form along with this transmittal form.

**FOR FEDERAL GRANTS:** All investigators must complete Financial Conflict of Interest disclosures. See the FCOI site for details.

### REQUIRED SIGNATURES

#### PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR

I certify that to the best of my knowledge, the above information is correct. I also certify that the plan detailed in the proposal complies with all campus, state, and federal regulations and policies and reflects University, College, and Departmental goals. This project is achievable as described, including the limitations of time, resources, and personnel. I understand that the grant will be awarded to UW-L, and generally all equipment and other tangible property acquired with grant funds shall vest in the institution.

William Schwan	<i>William Schwan</i>	4/22/16	6980
Printed Name	Signature	Date	Extension #

#### DEPARTMENT CHAIR/UNIT DIRECTOR

I certify that I have reviewed the proposal and found it to be complete, including required assurances, budget, and commitments involving space, faculty/staff time, and matching funds (current or future).

Bernadette Taylor	<i>Bernadette Taylor</i>	4/22/16	6990
Printed Name	Signature	Date	Extension #

#### COLLEGE DEAN/DIVISION DIRECTOR

I certify that I have reviewed the proposal and found it to be complete, including required assurances, budget, and commitments involving space, faculty/staff time and matching funds. In addition, I certify that all resources and other provisions of any award will be fulfilled.

Raymond Abhold	<i>Ray Abhold</i>	4/22/16	
Printed Name	Signature	Date	

#### CHANCELLOR OR REPRESENTATIVE

By signing this transmittal, I certify that this proposal has been thoroughly reviewed by the appropriate University officials and is consistent with University goals and its research/service/instructional mission.

Melissa A. Nielsen	<i>Melissa A. Nielsen</i>	4/26/16	
Printed Name	Signature	Date	

16.EXTN.123

**New / Revision Department Account**

Requested By: WILLIAM SCHWAN  
Requested Date: May 15, 2016  
Reason For Request: New Account  
Length of Funding: Temporary  
Dates of Funding: Start: 6/1/16 End: 5/30/19  
Selling Products?: No

Revenue Collecting?: Yes Redbook Budget? No  
Department Name: NSF SCHWAN 5/19  
WISDM Manager: BERNADETTE TAYLOR  
Required Training: No  
Source of Funding: 144 Federal Grant  
Accounting String: 

144	4	3618XX	26
Fund	AC	Dept ID	

Describe the Activity for this Account:

GRADUATE RESEARCH FELLOWSHIP FOR ALLISON ZANK, BUDGET IN PROCESS

**Grant Information**

Matching Funds Required? N \$ \_\_\_\_\_  
Dean / Division Match \$ \_\_\_\_\_  
Indirect Cost Rate NA %  
☐ Modified TDC  
☐ Salary, Wages, and Fringes CFDA# \_\_\_\_\_  
☐ Total Budget Entity \_\_\_\_\_

**Routing Notifications**

Budget Office ROBIN TUXEN  
Grant Accountant PAULA LUND  
WISDM Manager \_\_\_\_\_  
Division Budget Lead \_\_\_\_\_  
ADA \_\_\_\_\_  
CHANDRA HAWKINS/SYDNI DURRSTEIN

**Budget or Spend Plan**

Faculty	Participant Support
Grad Assist	Financial Aid
Classified	Special Purpose
LTE	Others
Student Help	_____
Work Study	_____
Fringe Benefits	_____
Travel	_____
Capital	_____
Services	_____
Supplies	_____
Indirect Costs	_____ Curation
Grand Total	_____

**Grant Accounting: 'plund' on 05/15/2016**

Accounting Office (as required)

Print

Date

*SLD*

*FY19*

Budget Office (as required)

Print

Date

**Business Services Approval by 'Sandra Chapman' on 05/15/16**

Controller Office Sign

Print

Date



Allison Zank &lt;allisonzank@gmail.com&gt;

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## 2016 NSF Graduate Research Fellowship Program Notification

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info@nsfgrfp.org &lt;info@nsfgrfp.org&gt;

Tue, Mar 29, 2016 at 4:05 AM

Reply-To: info@nsfgrfp.org

To: "allisonzank@gmail.com" &lt;allisonzank@gmail.com&gt;



**National Science Foundation**  
**Directorate for Education and Human Resources**  
**Division of Graduate Education**  
4201 Wilson Boulevard, Arlington, Virginia 22230

March 29, 2016

Allison Zank  
3200 Emerson Ave S #104  
Minneapolis, MN 55408

Application Number: 1000179620

Dear Allison Zank:

I am pleased to inform you that you have been selected to receive a 2016 National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellowship. Your selection was based on your demonstrated potential to contribute to strengthening the vitality of the U.S. science and engineering enterprise. **Please read carefully and follow the instructions** in the next pages for GRFP Fellowship Terms and Conditions, your responsibilities, and how to formally accept your Fellowship, declare fellowship status, and view your rating sheets.

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We encourage you to take advantage of professional development opportunities offered through the GRFP; for example, Graduate Research Opportunities Worldwide (<http://www.nsf.gov/grow>) and the Graduate Research Internship Program (<http://www.nsf.gov/grip>). Email notifications and "Dear Colleague Letters" on the [www.nsf.gov](http://www.nsf.gov) web site are the typical vehicle for communications of this nature.

Your selection as an NSF Graduate Fellowship awardee is a significant accomplishment. We wish you success in your graduate studies in science or engineering, and continued success in achieving your career aspirations. We look forward to learning about your achievements and contributions during your graduate study and beyond.

Sincerely,



Dean Evasius  
Division Director  
Division of Graduate Education

Dear Awardee,

Please read all of the information below and complete the required tasks before the deadline of May 1 (11:59 pm ET). On behalf of the Graduate Research Fellowship Program, we extend a warm welcome to the NSF community.

Sincerely,

Gisèle Muller-Parker, Joerg Schlatterer, Susan Brennan, Erick Jones  
GRFP Program Directors

- You must formally accept the award and agree to the Terms and Conditions of the Fellowship by May 1, 2016 (11:59 pm ET). Visit the NSF GRFP FastLane website (<https://www.fastlane.nsf.gov/grfp/>) to review the eligibility requirements, certifications, terms and conditions, and to electronically accept or decline this Fellowship. Please note: failure to meet the May 1 deadline to Accept/Decline the Offer will result in revocation of the fellowship offer. Upon acceptance of the award, the GRFP Fellowship cannot be concurrently held or combined with another U.S. Government Federal Fellowship.
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- Acceptance of the Fellowship constitutes a commitment to pursue a graduate degree in an eligible science or engineering field, as described in the Program Solicitation ([www.nsf.gov/GRFP/](http://www.nsf.gov/GRFP/)). Acceptance of a Fellowship award is an explicit acceptance of this commitment and assurance that you will be duly enrolled in a graduate degree program consistent with the field of study proposed in your application by the beginning of Fall 2016.
- All Fellows from the date of Acceptance through Completion or Termination of the Fellowship must be affiliated with a degree-granting institution accredited in, and having a campus located in, the United States, its territories, or possessions, or the Commonwealth of Puerto Rico that grants degrees in a GRFP-supported field.
- Familiarize yourself with the NSF GRFP FastLane website (accessed by logging in at: <https://www.fastlane.nsf.gov/grfp/>), as most GRFP actions and requests are handled through this site. The Guide contains the administrative policies and procedures for Fellows and GRFP Institutions. Please review it before contacting your Coordinating Official (CO) or the Program Office.
- You should contact the GRFP Coordinating Official at your intended institution of graduate study to inform her/him that you have accepted an NSF GRFP Fellowship. The Institution Directory is located at <https://www.fastlane.nsf.gov/grfp/>. The CO will assist you in effectively managing your Fellowship and should be your first point of contact in the event the Guide does not answer your questions.
- Following acceptance of the Fellowship you will need to declare your Fellowship Status by **May 1, 2016 (11:59 pm ET)** through the NSF GRFP FastLane website. Fellowship Status is explained in the



**Guide.** The Fellowship Status Declaration period is open and will close **May 1, 2016 (11:59 pm ET)** (Note: The deadlines for accepting the Fellowship and declaring your Fellowship Status are the same, therefore plan accordingly.)

There are two sections that Fellows have to complete. In the *Enter Fellowship Status Plans* section, Fellows are required to enter their Fellowship Status (Tenure or Reserve) for the upcoming year. In the *Enter Tenure and Reserve Plans* section, Fellows indicate how they envision utilizing tenure and reserve years over the five year Fellowship period. (Note: this feature helps the GRFP to forecast and allocate funding in the years ahead; it is not viewed as a permanent decision on your part, and the GRFP realizes that opportunities may come up that alter your five year plans.)

- Fellows are expected to make satisfactory academic progress towards completion of their graduate degrees, as defined and certified by the Fellow's GRFP institution. Upon completion of each year of your Fellowship, you are required to submit an Annual Activities Report that documents your activities, accomplishments, progress, and productivity. All Fellows are required to submit the Annual Activities Report by May 1, via the GRFP FastLane Module. Before May 1 of each year, your Annual Activities Report must be reviewed and approved by your Academic/Research Advisor, who signs the Academic/Research Advisor Confirmation Form. This Form is submitted as part of your Annual Activities Report. The Coordinating Official of the GRFP Institution will then certify your eligibility and satisfactory progress, required for fellowship continuance.
- In response to the America Competes Act, all Fellows are required to receive appropriate training and oversight in the responsible and ethical conduct of research. Please check with the campus CO about the Responsible Conduct of Research training requirement at your (intended) institution.
- Fellows are responsible for obtaining appropriate permissions and complying with all institutional policies concerning human subjects, hazardous materials, vertebrate animals, or endangered species and copyright and intellectual property.
- All publications, presentations, and creative works based on activities conducted during the Fellowship must acknowledge NSF GRFP support and provide a disclaimer (see Guide).
- Fellows are eligible to apply for supercomputing time through the NSF-supported Extreme Science and Engineering Discovery Environment (XSEDE) and for Facilitation Awards for Scientists and Engineers with Disabilities (FASSED). These opportunities are described in the Guide.
- GRFP institutions may submit Career Life Balance (CLB) supplemental funding requests (NSF 13-099; <http://www.nsf.gov/pubs/2013/nsf13099/nsf13099.jsp?org=EHR>) to sustain the research of active NSF Graduate Research Fellows who have been granted an NSF-approved medical deferral for dependent-care (family leave) situations.
- Please ensure that the following email address, and other email addresses from @nsf.gov, is not subject to a spam filter: [grfp@nsf.gov](mailto:grfp@nsf.gov). The GRFP Office will send out notices and updates using this address. Keep your contact information and email addresses current, as NSF will use your email address to communicate with you on a regular basis about related opportunities (e.g., GROW and GRIP).
- Your name is included in the Fellowship Awardee list. The NSF publishes lists of Fellowship Awardees and Honorable Mention recipients on the GRFP website at <http://www.fastlane.nsf.gov/grfp> by early April 2016.
- You may consider becoming a member of the *GRFP Fellows & Alumni Network* on LinkedIn.

Applications were reviewed according to the NSF Merit Review Criteria of Intellectual Merit and Broader Impacts. To view your application reviews, please navigate to the NSF GRFP FastLane website and log in using your FastLane GRFP login credentials.

Navigate to <https://www.fastlane.nsf.gov/grfp/>.

Login with your FastLane GRFP Username and Password.

The "View/Print Application Reviews" link will be available in your Fellows Optional Task List on the home page.

To view the Review Ratings sheets in a printable Adobe PDF version, click the "View PDF" icon.

**It is recommended that you print or save a copy of the Reviews PDF for your records now, as these will not be available after July 15, 2016.**

If you have problems accessing your reviews, please send an e-mail to [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

Any other questions pertaining to the reviews should be directed to [info@nsfgrfp.org](mailto:info@nsfgrfp.org).

### Certifications by Fellow

You must read and agree to all the certifications and terms and conditions as indicated in the information below before your award acceptance can be submitted.

There are five certifications which must be made before the National Science Foundation can authorize funds for a fellowship award. These concern: 1) controlled substances; 2) delinquency on Federal debt; 3) debarment and suspension; 4) originality of the application; and 5) eligibility criteria.

#### **I certify that:**

1. I will not engage in unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in the conduct of any activity with this fellowship award.
2. I am not delinquent on repayment of any Federal debt.
3. To the best of my knowledge and belief,
  - (a) I am not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) I have not within a three-year period preceding my application been convicted of or had a civil judgment rendered against me for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) I am not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (3) (b) of this certification;
  - (d) I have not within a three-year period preceding this application had one or more public transactions (Federal, State or local) terminated for cause or default.
4. I certify that the two Statements (Personal, Relevant Background and Future Goals Statement, and Graduate Research Plan Statement) in my application are my own original work.
5. I have read the NSF GRFP eligibility criteria and I certify that to the best of my knowledge and belief I am eligible for this fellowship. [See Section IV of the Program Solicitation for eligibility criteria (Fellows who are, or who will, enroll in a graduate degree program while on a leave of absence from a professional degree program or professional degree-graduate degree joint program are ineligible for a Graduate Research Fellowship)].

By electronically signing the request, I am certifying that (a) the statements made herein are true and complete

4/6/2016

Gmail - 2016 NSF Graduate Research Fellowship Program Notification

to the best of my knowledge; (b) I have not previously accepted an NSF Graduate Research or Predoctoral Fellowship; and (c) I have read and agree to comply with NSF GRFP Fellowship Terms and Conditions if the fellowship offer is accepted. I understand that if I accept the offer, failure to comply with the Fellowship Terms and Conditions will result in revocation of the fellowship.

Willful provision of false information in this request and its supporting documents or in reports required under an ensuing award is a criminal offense (U.S. Code, Title 18, Section 1001).

This email was sent to allisonzank@gmail.com. If you are no longer interested you can [unsubscribe instantly](#).



## Biographical Sketch for Meredith Thomsen

### (a.) Professional Preparation

Carleton College	Northfield, MN	Biology	B.A. 1997
University of California, Berkeley	Berkeley, CA	Integrative Biology	Ph.D. 2005

### (b.) Appointments

University of Wisconsin, La Crosse, Director of Graduate Studies, 2017 – present.

University of Wisconsin, La Crosse, Director of Environmental Studies, 2015 – present.

University of Wisconsin, La Crosse, Professor, 2014 – present.

University of Wisconsin, La Crosse. Associate Professor. 2010 – 2014. Tenure 2011.

University of Wisconsin, La Crosse. Assistant Professor. 2005 – 2010.

### (c.) Publications

#### i. Most Closely Related

Miller-Adamany\*, A., D.T. Gerber & M.A. Thomsen. *In press*. Maximizing stake performance: storage, soaking, scoring, and auxin as pre-planting techniques for sandbar willow (*Salix exigua*) stakes. **Natural Areas Journal**.

De Jager, N., B. Cogger\* & M.A. Thomsen. 2013. Interactive effects of flooding and deer (*Odocoileus virginianus*) browsing on floodplain forest recruitment. **Forest Ecology and Management** 303:11-19.

Paluch, E. \*, M.A. Thomsen & T. Volk. 2013. Effects of resident soil fungi outweigh those of commercial mycorrhizal inocula: testing a restoration strategy in unsterilized soil. **Restoration Ecology** 21:380-389.

Thomsen, M. A., K. Brownell, M. Groshek\* & E. Kirsch. 2012. Control of reed canarygrass promotes wetland herb and tree seedling establishment in an Upper Mississippi River floodplain forest. **Wetlands** 32: 543-555.

Salesman, J.B.\* & M.A. Thomsen. 2011. Smooth brome (*Bromus inermis*) in tallgrass prairies: a review of control methods and future research directions. **Ecological Restoration** 29: 374-381.

\* Indicates undergraduate or Master's student.

#### ii. Other Significant

Sullivan, M.J.P., M.A. Thomsen & K.B. Suttle. 2016. Grassland responses to increased rainfall depend on the timescale of forcing. **Global Change Biology** 22:1655-1665.

Suttle, K.B., M.A. Thomsen & M.E. Power. 2007. Species interactions reverse grassland responses to changing climate. **Science** 315: 640-642.

Thomsen, M.A., C.M. D'Antonio, K.D. Suttle & W.P. Sousa. 2006. Ecological resistance, seed density, and their interactions determine patterns of invasion in a California coastal grassland. **Ecology Letters** 9: 160-170.

Thomsen, M.A., J.D. Corbin & C.M. D'Antonio. 2006. The effect of soil nitrogen on competition between native and exotic perennial grasses from northern coastal California. *Plant Ecology* 186: 23-35.

**(d.) Synergistic Activities**

***Research Experience for Biology Education Majors:*** For four years, my UW-L colleague Dr. Tim Gerber and I brought Biology Education students to northern CA to assist with the annual sampling of a long-term climate change experiment. Students used their research experience as the basis for lesson plans addressing specific AAAS science education benchmarks, which were been published on the AAAS Science NetLinks website.

***Research Mentoring for Undergraduates:*** I have mentored 18 undergraduates at UW-L (9 male and 9 female students). Twelve have presented their results at UW-L events; three have presented at the National Conference on Undergraduate Research, and one at the National Great Rivers Research and Education Center's Summer Intern Symposium. Seven of these students were the first people in their families to attend college, and five of them faced economic hardship in paying for college.

***Summer Research for Students from Underrepresented Groups:*** I served as Co-PI and Director of Assessment for two grants from the Wisconsin Alliance for Minority Participation. Grants provided summer stipends and housing for 8 undergraduates from underrepresented groups majoring in the science, technology, engineering and math (STEM) disciplines. Participants reported improvements in their understanding of scientific methods, comfort interacting with faculty members, and sense of belonging to a community of students in STEM majors.

***Scholarship of Teaching and Learning:*** As one of two the 2010 UW System Teaching Fellows from UW-L, I studied the potential for a writing assignment to increase students' scientific self-efficacy, their belief in their ability to succeed in science. The development of scientific self-efficacy is a critical predictor of student retention in the STEM disciplines, particularly among students from traditionally underrepresented groups. I found that writing summaries of published papers in which they "translated" the journal article for a general audience improved student confidence in their ability to understand scientific literature.

***UW-L Chancellor's Joint Committee on Environmental Sustainability:*** I helped organize a Teaching Sustainability Workshop in January 2011 and a developed a new Sustainability Emphasis listing of classes posted on the UW-L Registrar's website. Ultimately, we hope to integrate the activities of people teaching about environmental sustainability from diverse perspectives across the University, building a sense of community and exploring ways in which we can improve our students' understanding of the connections among these topics.

Current & Pending Support  
University of Wisconsin-La Crosse  
PI: Meredith Thomsen

Project Title: NSF Graduate Research Fellowship Program

Project/Proposal Title	Status	Source of Support	Total Award Amount	Project Period	Project Location	Person Months per Year Committed to the Project
Controlling reed canarygrass to regenerate floodplain forest	<input checked="" type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future	State of Minnesota's Environment and Natural Resources Trust Fund	\$218,700	Start date: 9/1/2016 End date: 6/1/2019	La Crosse, WI, USA	Summer: 1

**Notifications & Requests** | MAIN ▶

Organization: University of Wisconsin-La Crosse

Forwarded by PI

Prepared by SPO

Submitted to NSF

**Request for Award 1452782 - Change PI and Add/Change Co-PI**

Status: Prepared

Topic Guidance: **PAPPG****Confirmed Eligibility**[Privacy Act](#)**PERSONNEL TO BE  
REPLACED**

Current PI: Steven Simpson

**PROPOSED EMAIL  
ADDRESS(ES)****PROPOSED NAME(S)**

Proposed New PI: mthomsen@uwlax.edu Meredith Thomsen

Meredith Thomsen**Associated Documents**A Biographical Sketch **PAPPG** and Current and Pending Support **PAPPG** information are required to be submitted for any individual currently not identified as senior project personnel on the project.**\*Biographical Sketch: View Uploaded Document**  
(Two page limit)**\*Current and Pending View Uploaded Document**  
**Support Document:****Justification****\*Justification for the  
Request**

Dr. Steven Simpson is retiring from his position as Graduate Studies Director. Dr. Meredith Thomsen is assuming the position, and so we are requesting a PI change to the existing NSF GRFP award.

[Modify Request](#)[Delete Request](#)[Cancel](#)[Submit to NSF](#)Download [Adobe Acrobat Reader](#) for viewing PDF files**National Science Foundation**4201 Wilson Boulevard, Arlington, Virginia 22230, USA  
Tel: 703-292-5111, FRS: 800-877-8339 | TDD: 703-292-5090[Privacy and Security](#)



Durrstein, Sydni &lt;sdurrstein@uwlax.edu&gt;

**Fwd: Award Id : 1452782, PI: Simpson**

Nielsen, Melissa <mnielsen@uwlax.edu>  
To: Sydni Durrstein <sdurrstein@uwlax.edu>  
Cc: Britney Greeneo <bgreeno@uwlax.edu>

Mon, Jun 27, 2016 at 6:47 AM

Hi, Sydni -

This is the award letter for the most recent NSF grad research fellowship.

Thanks!

Melissa

----- Forwarded message -----

From: <dmartin@nsf.gov>  
Date: Jun 27, 2016 5:40 AM  
Subject: Award Id.: 1452782, PI: Simpson  
To: <orsp@uwlax.edu>  
Cc: <dgaawd@nsf.gov>, <sholland@nsf.gov>, <gtimuller@nsf.gov>

**AWARD NOTICE**

Award Date:	June 27, 2016
Award No. (FAIN):	1452782
Amendment No.:	002
Proposal No.:	1645526
Managing Division Abbreviation:	DGE

Melissa Nielsen  
The University of Wisconsin, La Crosse  
Director, Research & Sponsored Programs  
1725 State Street  
La Crosse, WI54601-3742

DUNS ID: 068191097

Dear Ms. Nielsen:

The National Science Foundation hereby awards \$92,000 to The University of Wisconsin, La Crosse for additional support of the project described below.  
This project, under the direction of Steven Simpson, is entitled:

**"Graduate Research Fellowship Program (GRFP)."**

The purpose of this amendment is to increase the award by an additional \$92,000 to support the NSF graduate Fellows on tenure and on partial tenure at the institution (as per the GRFP Grants Roster). The cumulative amount awarded under this GRFP award now totals \$184,000.

The amount of this award is based on 12 months of tenure at \$34,000 (taxable) per Fellow as a maximum annual stipend and \$12,000 per Fellow as a cost-of-education institutional allowance. The actual amount awarded is based on the certified GRFP Program Expense Reports submitted by the institution and the current Grants Roster of Graduate Fellows requiring support (Fellows on tenure). This information may be accessed through the GRFP Coordinating Officials.

Funds from this award and/or any amendments to this award are expected to be fully expended in support of the GRFP Fellows prior to expending funds from any newly issued GRFP award.

Available grant balances may be used for any GRFP Fellow who is in compliance with applicable program guidelines. Thus, funds from prior year grants may be used to support any NSF Graduate Research Fellow duly enrolled at a GRFP Institution in an eligible advanced degree program in a field supported by NSF (see the "Program Solicitation" and "Guide" for guidance).

This award ends on August 31, 2019.

This grant is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75).

Except as modified by this amendment, the provisions of the "Program Solicitation" (NSF 15-597) and "Graduate Research Fellowship Program Administrative Guide for Fellows and Coordinating Officials" (NSF 13-085) available at [http://www.nsf.gov/pubs/2015/nsf13085/nsf13085.pdf](http://www.nsf.gov/pubs/2015/nsf15597/nsf15597.pdf), respectively, are applicable to this grant.

Each institution, in accepting the funds, also certifies that the Fellows are eligible to receive the Fellowship under these terms and conditions. The institution has full responsibility for the conduct of the project or activity supported under an NSF grant and for the results achieved.

The cognizant NSF program official for this grant is Gisele T. Muller-Parker, (703) 292-7468.  
The cognizant NSF grants official contact is Regina M Alexander-Pinkney, (703) 292-8453.

Sincerely,

Denise Martin  
Grants And Agreements Officer

CFDA No. 47.076, Education and Human Resources  
[orsp@uwlax.edu](mailto:orsp@uwlax.edu)

Allison Zank

## **Personal, Relevant Background and Future Goals Statement**

My story is worth listening to. As someone long fascinated by the world of drug discovery, I have come to see the development of science and medicine as a path that parallels human evolution. Remnants of medicinal plants have been found in the dentition of Homo Neanderthalis, a tradition evolving for tens of thousands of years within our own species until the 1600s when early European scientists began to express concern as they watched “immigrant apothecaries” slowly replace village-naturopaths. The alarmed individuals knew that the preparation of medicinal remedies was not as simple as picking a plant and then mashing bits of it up, but instead involved carefully monitoring the life cycle of the plant and intensely preparing a “cure” at the right time. The early drug discovery efforts were recorded and are still being published to date. A plethora of these promising plants have still not yet been scientifically scrutinized. It is astounding to think that blooming wildflowers or roadside weeds may very well contain completely novel compounds to help humanity combat disease. My interest in this, and my proposed research project helped me win a Barry S. Goldwater Scholarship in 2013, indicating that my locus of curiosity is valid, and I have found a scientist at Mayo Graduate School with whom I can study this topic.

I am a non-traditional student and the fact that I qualify for the opportunity to even apply for a PhD program is nothing short of miraculous. Starting out as a homeless teenager who placed beyond a level that alternative high-schools could support, my inherent curiosity about the world around me led me to teach myself out of whichever second-hand college textbooks I could scavenge at used book stores. Once I was finally old enough to acquire a GED, I attended community college as a first generation college student, but family illness stunted my progress. Widowed with two small children, life again forced me to pause my academic curiosity and for practical purposes I became a licensed dental assistant, again teaching myself math, science, psychology, history, and religion out of old textbooks for mental stimulation. When my children became independent enough that I could begin to really focus on my own interests, I enrolled at Augsburg College—and thrived. Since then, four formal undergraduate research opportunities and extensive lab work have prepared me for graduate school and life as a scientist. Due to its multifaceted and interdisciplinary nature, I aspire to study translational science.

From 2011 to 2012, I invested roughly 800 hours investigating the average amount of mercury emitted into the environment when cadavers with dental amalgam fillings are cremated. Having outlined the study years before I ever imagined doing this research, I recognized that Augsburg College did not have the resources to support my question. Therefore, I reached out to the University of Minnesota School of Dentistry and found a mentor who allowed me to use her lab. During my year in Dr. Myers’ lab, I determined the average mercury content per cadaver by first dissolving the hard tissues off of 75 extracted teeth provided by oral surgeons, and then surveying the number of amalgam fillings in 48 cadavers. Using this data, I then put fillings in virgin teeth and cremated them alongside cadavers to determine the change in mass, which revealed that 0.23 grams of mercury, on average, was released per cremation of a cadaver.<sup>1</sup> This surprising result showed that continuing to allow these affordable dental restorations, which use mercury, would have negligible impact on air pollution as a whole. That study is still unpublished because Dr. Myers obtained a grant from the Minnesota Pollution Control Agency to enlarge the data.

Allison Zank

## Personal, Relevant Background and Future Goals Statement

I thought I wanted to be a dentist, but after my first summer of research, realized that I could impact millions of lives as a scientist rather than hundreds of lives as a dentist with work that could affect the rich, poor, and middle classes alike. It was then that I knew that I wanted to go to graduate school and be a biomedical scientist. Even working as a dental assistant, a major field of interest for me was within the study of bacterial biofilms, but by the time I decided to pursue a PhD, I saw that I would be behind the learning curve on this subject since this topic is generally studied by biologists rather than chemists. When I heard that a professor from the Mayo Clinic was studying biofilms at my college, I actively petitioned for the chance to be considered as part of her microbiology team. She did accept me, and assigned me my own portion of the study, which was my most satisfying research experience. I was to compare the density of *Pseudomonas aeruginosa* biofilm formation in the presence of varying dilutions of either cystic fibrosis (CF) or non-cystic fibrosis lung secretions, but the bacteria were notoriously reluctant to do what was expected of them, plaguing both of my predecessors with wild standard deviations. Fortunately, I was able to apply principles from chemistry to obtain consistent results and, during winter break, found a way to run four experiments in one day when only three a week had been possible over the summer. This data showed that an agent that inhibits *P. aeruginosa* biofilm formation is present in healthy lungs and not in CF lungs. Not only did I learn how to perform biofilm assays, but also this work may enable science to find more effective treatment for CF sufferers or even inform those who are studying antibacterial resistant organisms.<sup>2-4</sup>

Wanting to investigate industry as well as academia, I explored a different type of research as an R&D intern during the summer of 2013 at a start-up nanomaterials lab with three employees. I was again fortunate to be assigned my own study and it was my job to determine the growth rate of nanowires under different conditions, exploring voltages and solution concentrations. Having signed a confidentiality agreement, I am not at liberty to say exactly what I did, but I can say that I serendipitously discovered a novel method of production that is expected to be used for their first patent. This method reduced the number of steps, production time, probability for error, and hence the overall price of production. Although I was successful in this research endeavor, I missed the intricacies and challenges that come from working with biological systems.

For my senior year research, I explored the use of iron compounds in organometallic chemistry with a professor at Augsburg. Although I knew that this was not research that I planned to pursue in graduate school I did enjoy learning new techniques and ways of thinking about chemistry since one never knows which ideas might carry over in a surprising way.

After graduating from Augsburg, I spent the summer in Raleigh, NC, volunteering at a lab that screened small molecules against *Mycobacterium smegmatis* biofilms at North Carolina State University. I was accepted to graduate school there but unexpectedly, my high school-age daughter became gravely ill and we needed to return to Minnesota for her treatment, so I moved back to Minneapolis and took a full-time position as the lab manager of a biodiesel plant. Although I enjoy the job and the environmental benefits of the work that we do, most of my time is consumed by routine analytical chemistry and I have found this to be very unsatisfying. My innate curiosity and proclivity for research is rarely summoned, and I have again found myself



Allison Zank

## Personal, Relevant Background and Future Goals Statement

dreaming of a research career. My daughter has recovered and is off to college soon, but I wish to remain in Minnesota for the foreseeable future.

I strive to earn a PhD so that one day I can have my own lab and fully explore the idea of species-specific antiseptic compounds because, in the long term, the current approach which seeks to kill the entire microbiome in an effort to target a single bacterium creates a great deal more chaos than benefit. My specific area of interest lies at the crossroads of medicinal biochemistry and bacteriocidal pharmacognosy. It stands to reason that the sessility of plant-based lifeforms inherently predisposes these organisms to produce biofilm-fighting compounds and that there may be great medical benefits in scrutinizing the chemical warfare that is occurring among the seemingly peaceful "forest-floor." I believe that the work that has been done by non-Western cultures and Native American traditional medicine can benefit science in great ways by guiding us to iatrically valued and novel pharmacophores. I was very disappointed to have to interrupt my graduate studies, particularly because I envision graduate school as the pathway to scientific independence and maximum contribution. My mind naturally generates ideas with which to explore the many questions that seem to constantly pop into my head, but without a PhD, these ideas are more frustrating than anything else because I cannot apply them or even talk about them with any like-minded people. Professionally, I have always been in support roles and really feel that I can contribute so much more to the world's body of knowledge. I envision that graduate school will not only prepare me with techniques and fellows with whom I can explore my specific ideas in depth but that I might also finally learn how to publish papers, which is something that my liberal arts college did not emphasize, and finally be able to help to build the understanding of like-minded scientists for ages to come.

I am very excited about the research opportunities that are offered at Mayo. Moreover I believe that I will be accepted there because of my chemistry and biofilm studies. Many of the Mayo graduate students are biologists or molecular biologists, and the faculty that I have reached out to have indicated that there is a need for chemists in their midst. Although my early academic career was full of challenges, overcoming so much adversity has given me a unique mix of vision, creativity, and tenacity that carries over into my lab-work and life has molded me into a problem solver who is highly concerned with the greater good. When I set my mind to a problem it usually gets solved, often in surprising ways and it is for this reason I hope to be a scientist that the NSF and Mayo Graduate School is proud to call its own.

- (1.) Zank AM and Myers SL (2012) "Mercury Emissions from Cremated Cadavers" presented at Augsburg College McNair Scholars Oral Presentations, Minneapolis, MN on July 26, 2011 and Zyzzogeton Poster Session, Minneapolis, MN on April 19, 2012. (2.) Zank AM and Bankers-Fulbright JL (2012) "Human Airway Epithelial Secretions Inhibit the Formation of *P. aeruginosa* Biofilms" presented at McNair Scholars Symposium, 2012, Berkeley, CA on August 4, 2012 and at MN Academy of Science, Minneapolis, MN on April 13, 2013.
- (3.) Sorum AW, Zank AM and Bankers-Fulbright JL (2013) "Human Airway Epithelial Secretions Inhibit the Formation of *P. aeruginosa* Biofilms" presented at Experimental Biology 2013, Boston, MA on April 22, 2013.
- (4.) Bankers-Fulbright JL, Sorum AW, Hinz SM, Zank AM (2013) "*P. aeruginosa* Biological Functions are Inhibited by Normal Airway Secretions: Implications for Cystic Fibrosis" presented at Immunology 2013, Honolulu, HI on May 5, 2013.

## Natural Compounds Combat Oral Biofilms

Allison Martha Zank · Mayo Graduate School

**Introduction** Human dental plaque is one of the most complex biofilm systems in nature, as it is constantly exposed to environmental challenges and therefore it may serve as a general model to study the biology of biofilms.<sup>1</sup> Of the 600 prevalent taxa found in the oral microbiome, *Streptococcus mutans* (Sm) is a prevalent strain that is linked to the weakening of dental enamel. Sm releases acid as a metabolic byproduct—protonating and etching the hydroxyapatite ( $\text{Ca}_5(\text{PO}_4)_3\text{OH}$ ) matrix of the dental enamel—thus increasing the surface area for bacterial attachment and biofilm growth; this leads to a higher bacterial population and thus more acid release. (Fig. 1) The above-described phenomenon, known as acid attack, is a well-studied and common cause of tooth decay and eventual loss. Tooth loss is a serious problem that, once begun, is further complicated by a cascade of related dental complications. Prosthodontic replacement serves as cosmetic enhancement, but is a poor substitute for the natural dentition and does little to quell the acute physiological consequences that accompany oral break-down. While current methods for the prevention of carious lesions are somewhat effective, tooth decay is still the most common disease in America; and while a disproportionate amount of research efforts are spent to increase life-span with medical advancement, much less research is being done to ensure quality of geriatric life. I hypothesize that: (a) unresearched chemical resources exist that can arrest and inhibit oral biofilm formation and thus better prevent dental caries; (b) oral care products can be formulated to more effectively combat oral biofilm; and (c) this research can inform other areas of infectious disease study, such as antibiotic resistance, bacterial endocarditis, and prosthetic joint infection.



Figure 1. Acidic Enamel Attrition

It is my goal to scientifically investigate the chemical interactions between plant-derived compounds and the bacteria that threaten the integrity of dental enamel, with the short-term goal of improving oral longevity and the ultimate aim of broadly impacting the study of the fundamental prokaryotic biofilm formation pathways.

**Background** As we enter a post-antibiotic era, the demand for novel antiseptic molecules is more urgent than ever before.<sup>2</sup> Eastern cultures and traditional Native American healers have long been exploring plant medicine, and there appears to be a great wealth of useful and novel information to be had from compounds found in nature. Although it is a mistake to believe that herbal remedies are safe simply because they grow outside, science is coming to believe that it is detrimental to society to dismiss, rather than explore, this untapped breadth of primitive folk medicine. Not surprisingly, highly impactful results ensue when social darwinism is overcome and these remedies are responsibly explored. For instance: in 2011, Christian Melander (NCSU) discovered a biofilm fighting compound in the brown sea sponge *Agelas conifera*, and the 2015 Nobel Prize for medicine was awarded to Satoshi Omura for isolating natural antibiotic compounds from the soil bacterium *Streptomyces*. Unfortunately, we are still using the same tedious method of spending years to form and test analogues from a single pharmacophore rather than broadening our scope to combine several existing compounds, and it is in this respect that my research is different.

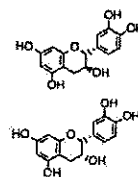


Figure 2. Catechin and Epicatechin

Polyphenols such as catechin (found in green tea) and epicatechin (found in cranberries) have been shown to prevent *Sm* surface attachment and virulence factors (fig. 2); peppermint monoterpenes appear to inhibit bacterial growth (fig. 3); and studies of curcuminoid compounds (found in turmeric) show inhibition of the Sortase A pathway of prokaryotic adhesion-mediating large surface glycoproteins (fig. 4).<sup>[3, 4, 5, 6]</sup> This is by no means a comprehensive listing of promising research, but rather a snapshot of the data that indicates a common terpenous moiety among the compounds that could be isolated to produce bacteriospecific attack.

**Research** This research could be done in five steps. First, a literature review to identify and cross-reference compounds of interest, followed by testing of the exact compounds that perform *Sm* biofilm inhibition from these moieties. This will be done on saliva-coated apatitic wells at 98.6 °F for two minutes with shaking, defining inhibition as 50% at 1:20 dilution. Next, the efficacy of biofilm inhibition by a formula mix of the most promising compounds for study will be done on *Sm* with variations of each dilution in the presence of other common oral species to determine which inhibitory compounds are mainly targeting the malicious bacterial strains. This can be determined by Mitis Salivarius Bacitracin solid culture and high throughput microbiome sequencing. It is possible that the necessity for molecular modifications may present during this time, but analysis and isolation of existing compounds rather than synthesis will be the main focus, thus, the first two portions of this study are expected to take approximately four years. Finally, a mixture of the proper dilutions of the target compounds would be formulated in glycerin with special emphasis placed on buffering the product so that sodium fluoride compounds, commonly found in drinking water and toothpaste, do not interact with the target compounds or make side products. This portion of the study is expected to take approximately one year.

I am currently applying to graduate studies at Mayo Graduate School. I found Mayo to be the ideal location for the achievement of my goals. There, I have been in touch with a lab whose main research centers around biofilms and infectious disease. Although I am just now applying, Mayo is highly collaborative and for my committee I can access cutting edge pharmaceutical chemists who can advise me on pharmacognosy, as well as chemical biologists and microbiologists whose input toward fine-tuning of technique will be essential. With this support, great strides will be made towards the chemical understanding in the fight against bacterial biofilm.

**References** <sup>1</sup>Foster JS, Palmer RJ, Jr., Kolenbrander PE (2003). *Biol Bull* 204: 200–204.

<sup>2</sup> World Health Organization (2014). [who.int/drugresistance/documents/surveillancereport/en/](http://who.int/drugresistance/documents/surveillancereport/en/)

<sup>3</sup> Taylor PW, Hamilton-Miller JMT, Stapleton PD (2005). *Food Sci Technol Bull* 2: 71-81. <sup>4</sup> Xu X, Zhou X, Wu C (2010) *Antimicrob Agents Chemother* 55(3): 1229-1236. <sup>5</sup> Chaudhari LK, Jewale BA, Sharma H, et al. (2012) *J Contemp Dent Pract* 13(1): 71-4 <sup>6</sup> Hu P, Huang P, Chen MW (2013) *Arch Oral Biol* 58(10): 1343-8.

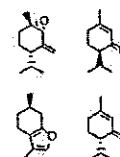


Figure 3. Peppermint Monoterpenes

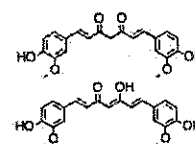


Figure 4. Curcumin Tautomers

"Graduate Research Fellowship Program (GRFP)."

The purpose of this amendment is to increase the award by an additional \$46,000 to support the NSF graduate Fellows on tenure and on partial tenure at the institution (as per the GRFP Grants Roster). The cumulative amount awarded under this GRFP award now totals \$230,000.

The amount of this award is based on 12 months of tenure at \$34,000 (taxable) per Fellow as a maximum annual stipend and \$12,000 per Fellow as a cost-of-education institutional allowance. The actual amount awarded is based on the certified GRFP Program Expense Reports submitted by the institution and the current Grants Roster of Graduate Fellows requiring support (Fellows on tenure). This information may be accessed through the GRFP Coordinating Officials.

Funds from this award and/or any amendments to this award are expected to be fully expended in support of the GRFP Fellows prior to expending funds from any newly issued GRFP award.

Available grant balances may be used for any GRFP Fellow who is in compliance with applicable program guidelines. Thus, funds from prior year grants may be used to support any NSF Graduate Research Fellow duly enrolled at a GRFP Institution in an eligible advanced degree program in a field supported by NSF (see the "Program Solicitation" and "Guide" for guidance).

This award ends on August 31, 2019.

This grant is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75).

Except as modified by this amendment, the provisions of the "Program Solicitation" (NSF 16-588) and "Graduate Research Fellowship Program Administrative Guide for Fellows and Coordinating Officials" (NSF 16-104) available at <http://www.nsf.gov/pubs/2016/nsf16588/nsf16588.pdf> and <http://www.nsf.gov/pubs/2016/nsf16104/nsf16104.pdf>, respectively, are applicable to this grant.

Each institution, in accepting the funds, also certifies that the Fellows are eligible to receive the Fellowship under these terms and conditions. The institution has full responsibility for the conduct of the project or activity supported under an NSF grant and for the results achieved.

The cognizant NSF program official for this grant is Gisele T. Muller-Parker, (703) 292-7468.  
The cognizant NSF grants official contact is Regina M Alexander-Pinkney, (703) 292-8453.

Sincerely,

Vanessa L. Richardson  
Grants And Agreements Officer

CFDA No. 47.076, Education and Human Resources  
orsp@uwlax.edu

\$ 34,000 / student  
\$ 12,000 institutional

## FW: Award Id : 1452782, Pl: Simpson

Melissa Nielsen

Mon 6/12/2017 12:32 PM

To: Meredith Thomsen &lt;mthomsen@uwlax.edu&gt;;

Cc: Steven Simpson &lt;:ssimpson@uwlax.edu&gt;;

Hello, Meredith -

To keep you in the loop regarding NSF GRFP communications, below is the award letter UWL received today for the upcoming year. We have one currently active GRFP recipient--Allison Zank, whose faculty advisor is Bill Schwan.

Our office works with the grant accountant, Linda Leopold, to facilitate account set-up, and so no action is needed on Steve's or your part.

Please let me know if you have any questions.

Thank you,

Melissa

-----Original Message-----

From: vlrichar@nsf.gov [mailto:vlrichar@nsf.gov]

Sent: Monday, June 12, 2017 11:10 AM

To: Research and Sponsored Programs &lt;orsp@uwlax.edu&gt;

Cc: dgaawd@nsf.gov; sholland@nsf.gov; gtmuller@nsf.gov

Subject: Award Id : 1452782, Pl: Simpson

## AWARD NOTICE

Award Date:	June 12, 2017
Award No. (FAIN):	1452782
Amendment No.:	003
Proposal No.:	1744688
Managing Division Abbreviation:	DGE

Melissa Nielsen  
The University of Wisconsin, La Crosse  
Director, Research & Sponsored Programs  
1725 State Street  
La Crosse, WI54601-3742

DUNS ID: 068191097

Dear Ms. Nielsen:

The National Science Foundation hereby awards \$46,000 to The University of Wisconsin, La Crosse for additional support of the project described below.

This project, under the direction of Steven Simpson, is entitled:

sydni durrstein  
ID 4958777  
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[Help](#)



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## University of Wisconsin-La Crosse - Exams Completed

[Back](#)

**Learner: Allison Zank**

The learner's exam history is shown below. [Click here](#) to view the modules completed.

Module ID	Module	Exam ID	Exam Date	Points Earned on Exam	Total Points on Exam	Exam Score	IP Address
16597	Authorship (RCR-Basic)	180564798	2017-06-28 21:56:13.55	5	5	100	N/A
16598	Collaborative Research (RCR-Basic)	182113153	2017-07-21 18:11:20.883	5	5	100	N/A
16599	Conflicts of Interest (RCR-Basic)	182112770	2017-07-21 17:59:37.24	4	5	80	N/A
16600	Data Management (RCR-Basic)	192643463	2017-11-22 19:13:55.313	5	5	100	N/A
15070	Financial Conflicts of Interest: Overview, Investigator Responsibilities, and COI Rules (COI-Basic)	182049913	2017-07-20 20:17:53.937	3	5	60	N/A
15072	Institutional Responsibilities as They Affect	182050360	2017-07-20 20:26:34.74	3	5	60	N/A

	Investigators (COI-Basic)						
16602	Mentoring (RCR-Basic)	192644492	2017-11-22 19:41:13.763	5	5	100	N/A
16603	Peer Review (RCR-Basic)	180565538	2017-06-28 22:06:55.933	5	5	100	N/A
16604	Research Misconduct (RCR-Basic)	192625331	2017-11-22 13:56:24.067	5	5	100	N/A
1821	Using Hazardous and Toxic Agents in Animals	180565878	2017-06-28 22:15:17.41	4	5	80	N/A

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## RCR Student Training Plan Form: NSF Grants

NSF requires that students working on agency funded grants receive training in the Responsible Conduct of Research (RCR). A plan must be in place at the time that the grant is submitted for the Office of Research and Sponsored Programs (ORSP) to sign-off on the grant proposal. UW-La Crosse's policy is that students must complete the following training to be adequately trained and be in compliance with NSF requirements.

Must be completed within	Undergraduate Students	Graduate Students/Post-docs
First 2 weeks of employment	<u>NSF Rights and Obligations Module</u>	<u>NSF Rights and Obligations Module</u>
First 6 weeks of employment	<u>2 or more CITI Modules</u>	<u>3 or more CITI Modules</u>

Please review the list below and select the most appropriate training modules for the students that will be working on this project. PIs may require their students to complete more than the minimum expectations shown above.

### Available Modules:

	Undergraduates	Graduates
Research Misconduct	<input type="checkbox"/>	<input checked="" type="checkbox"/> 11/22/2017 7/15/17 SUP
<u>Data Acquisition, Management, Sharing and Ownership</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 11/22/2017
Publication Practices and Responsible Authorship	<input type="checkbox"/>	<input checked="" type="checkbox"/> 6/28/17 SUP
Peer Review	<input type="checkbox"/>	<input checked="" type="checkbox"/> 6/28/17 SUP
<u>Mentor and Trainee Responsibilities</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 11/22/2017
Using Animal Subjects in Research	<input type="checkbox"/>	<input checked="" type="checkbox"/> 6/28/17 SUP
Human Subjects (may substitute <u>IRB on-line training</u> )	<input type="checkbox"/>	<input type="checkbox"/>
<u>Conflicts of Interest and Commitment</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 7/21/17 SUP
<u>Collaborative Research</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 7/21/17 SUP

PI Name: William Schwan

Grant Title: NSF Graduate Research Fellowship

Signature: William Schwan Date: April 21, 2016





# Graduate Research Fellowship Program (GRFP)

## Fellowship Administration

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### Fellow Information | MAIN ▶

Allison Zank - 2016179620

<a href="#">Profile</a>	<a href="#">Fellowship Status Details</a>	<a href="#">Activities Reports</a>	<a href="#">Fellowship Status Changes</a>	<a href="#">Travel Requests</a>	<a href="#">Additional Funding Opportunities</a>
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### Fellowship Status Records

4 items found, displaying 1 to 4

1

<a href="#">Fellowship Year</a>	<a href="#">Organization</a>	<a href="#">Field of Study</a>	<a href="#">Fellowship Status</a>	<a href="#">Fellowship Year Start</a>	<a href="#">Tenure Months Used</a>	<a href="#">Reserve Months Used</a>	<a href="#">Forfeit Months Used</a>	<a href="#">Deferred Months Used</a>	Stipend Used	COE Used	Travel Used	GROW Used	GRIP Used	Other Used	Action
2016	University of Wisconsin-La Crosse	Chemistry - Chemistry of Life Processes	On Tenure	Summer	12	0	0	0	\$34,000.00	\$12,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<a href="#">View</a>
2017	University of Wisconsin-La Crosse	Chemistry - Chemistry of Life Processes	On Tenure	Summer	12	0	0	0	\$34,000.00	\$12,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<a href="#">View</a>
2018	University of Wisconsin-La Crosse	Chemistry - Chemistry of Life Processes	On Tenure	Summer	12	0	0	0	\$34,000.00	\$12,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<a href="#">View</a>
2019	University of Wisconsin-La Crosse	Chemistry - Chemistry of Life Processes	On Reserve	Fall	0	12	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<a href="#">View</a>

Export options: [Excel](#)

### Additional Funding Opportunity Records

To update GRIP and GROW, please use the table below. Records listed are NSF approved AFO Requests that have been funded.

**Note:** Application Year is based on the AFO application submission deadline. The deadline date corresponds to the current fellowship year.  
Fiscal Year is based on when the funding is applied. The funding date corresponds to the current fiscal year.  
Planned Utilization Year is based on when the funding is planned to be used and corresponds to the start date of the primary planned trip.  
Fellowship Year is based on the GRIP/GROW application year and corresponds to the GRIP/GROW task year.

No items found.

1

<a href="#">Fellowship Year</a>	<a href="#">Organization</a>	<a href="#">Application Year</a>	<a href="#">Opportunity</a>	<a href="#">Sponsoring Scientist Country/Agency</a>	<a href="#">Request Date</a>	<a href="#">Deadline Date</a>	<a href="#">Fiscal Year</a>	<a href="#">Planned Utilization Year</a>	<a href="#">Amount</a>	Action
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Nothing found to display

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### National Science Foundation

2415 Eisenhower Avenue, Alexandria, Virginia 22314, USA

Tel: 703-292-5111, FIRS: 800-877-8339 | TTY: 703-292-5090

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