

## Abigail Solitro

Phone: 616-234-5681 ▪ Email: abigail.solitro@vai.org  
Employment Address: 333 Bostwick Avenue, Grand Rapids, MI 49503

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**CAREER INTERESTS** My two primary passions are scientific research and teaching/mentoring. My career goal is to use the myriad of technical and communication skills perfected during my doctoral training to inspire and instruct undergraduate students in the biological sciences.

**EDUCATION** Van Andel Institute Graduate School (VAIGS)  
PhD in Cell and Molecular Genetics (expected graduation date 8/2018)  
Dissertation Title: Targeting autophagy, the Achilles' heel of KRAS-driven NSCLC  
GPA – 3.912

Ferris State University, Big Rapids, MI  
B.S. Biotechnology and B.S. Forensic Biology (completed 5/2013)  
GPA – 4.00

### GRANTS & HONORS

**Graduate** Graduate Student Association Retreat Winner (7/2014)  
Presentation: Dissertation Elevator Speech

**Undergraduate** College of Arts and Sciences Outstanding Biology Graduate Award (2013)  
Department of Biological Sciences Faculty-Sponsored Scholarship (2013)  
Honors Outstanding Scholar Award (2013)  
Honors Outstanding Volunteer Award (2013)  
Ability Based Biology Scholarship (2010, 2011, 2012)  
Best Poster Award for Organic Chemistry Research Project (2011)  
Dean's List (every semester of undergraduate study)  
Helen Ferris Vartan Scholarship (2011, 2012)  
Honors Residential Life Scholarship (2009, 2010, 2012, 2013)  
Woodbridge N. Ferris Founder's Scholarship (2009, 2010, 2011, 2012, 2013)

### PUBLICATIONS & PRESENTATIONS

**Graduate** Future Medicinal Chemistry Review (1/2016)  
Title: Leaving the lysosome behind: novel developments in autophagy inhibition

Van Andel Research Institute Retreat (6/2015)  
Poster Title: Targeting autophagy, the Achilles' heel of KRAS-driven NSCLC

AACR Meeting: Targeting the PI3K-mTOR Network in Cancer (9/2014)  
Poster Title: Kicking the addiction: treatment strategies for autophagy-dependent NSCLC

Van Andel Research Institute Retreat (6/2014)  
Poster Title: Kicking the addiction: treatment strategies for autophagy-dependent NSCLC

**Undergraduate** Van Andel Institute Undergraduate Symposium (11/2012)  
Poster Title: Using mouse models to investigate chromosomal abnormalities resulting from altering the p53 pathway

University of Texas MD Anderson Cancer Center Symposium (8/2012)

Poster Title: Using mouse models to investigate chromosomal abnormalities resulting from altering the p53 pathway

Ferris State University College of Arts and Science Symposium (4/2011)

Poster Title: Developing a simple DNA sequencing protocol for high school and undergraduate use

Van Andel Institute Undergraduate Symposium (11/2012)

Poster Title: Developing a simple DNA sequencing protocol for high school and undergraduate use

## EMPLOYMENT

### Graduate

VAIGS  
Graduate student  
Grand Rapids, MI  
8/2013 – present

Michigan State University (CHM)  
Directed Study Group Leader  
Grand Rapids, MI  
8/2015 – 12/2015

### Undergraduate

Ferris State University  
Research Assistant for Dr. Bradley Isler  
Big Rapids, MI  
10/2012 - 5/2013

University of Texas MD Anderson Cancer Center  
Department of Genetics Intern  
Houston, TX  
6/2012 – 8/2012

Michigan State Police Crime Laboratory  
Toxicology Unit Intern  
Lansing, MI  
5/2011 – 8/2011

## RESEARCH EXPERIENCE

### Graduate

Van Andel Research Institute – MacKeigan Laboratory (3/2014 – present)  
Project Title: Targeting autophagy, the Achilles' heel of KRAS-driven NSCLC  
Role: PI

- Assisting in the NCI's Ras Initiative by investigating autophagy as a targetable downstream effector pathway of KRAS signaling
- Employing cell culture, immunoblotting, flow cytometry and microscopy techniques to determine the mechanism of autophagy dependence in NSCLC
- Using soft agar growth assays to screen novel autophagy inhibitors in combination with standard-of-care treatments for NSCLC

Van Andel Research Institute – MacKeigan Laboratory (8/2014 – present)  
Project Title: Preclinical development of novel autophagy inhibitors in NSCLC  
Role: Co-PI

- Assessing the safety, bioavailability and efficacy of novel autophagy inhibitors in mouse models of KRAS-driven NSCLC
- Managing collaborations between the Van Andel Research Institute's vivarium staff and the University of Michigan's Pharmacology Department

### Undergraduate

Ferris State University – Isler Laboratory (10/2012 – 5/2013)  
Project Title: Developing a simple DNA sequencing protocol for high school and undergraduate use  
Role: PI

- Purified human DNA sequences containing the ACTN3 gene through polymerase chain reaction (PCR), agarose gel electrophoresis, and cycle sequencing
- Sequenced ACTN3 DNA using ABI 310 capillary electrophoresis

- Determined ACTN3 single nucleotide polymorphism (SNP) genotypes of test subjects

University of Texas MD Anderson Cancer Center – Lozano Laboratory (6/2012 – 8/2012)

Project Title: Using mouse models to investigate chromosomal abnormalities resulting from altering the p53 pathway

Role: Co-PI

- Assisted in creating a mouse cohort for genetic studies consisting of all combinations of MDM2 and p73 genotypes
- Isolated mouse embryonic fibroblasts and created metaphase spread slides
- Used fluorescence microscopy to assess chromosomal abnormalities (i.e. fusions, breaks, copy number alterations)

## LEADERSHIP EXPERIENCE

Graduate

VARI Summer Research Intern Mentoring Program (5/2015 – present)  
Mentor

VAIGS First Year Graduate Student Mentoring Program (8/2014 – 5/2015)  
Mentor

Undergraduate

DNA Biotechnology Fraternity (2011 - 2012)  
President

Ferris State University Residential Life (2011 – 2012)  
Resident advisor

DNA Biotechnology Fraternity (2010 - 2011)  
Secretary

## VOLUNTEER EXPERIENCE

Graduate

VARI Undergraduate Symposium  
Registration assistant, photographer, tour guide

Van Andel Education Institute (VAEI) Science Academy  
Tour guide and guest speaker

VAI Purple Community  
Liaison between VAI and Duncan Lake Middle School

Hudsonville High School Career Day  
VAIGS session leader

Helen DeVos Children's Hospital  
Summer camp aide

VAIGS Recruiting Events  
Student escort

Undergraduate

Over 100 hours logged in on-campus events and as an elementary teacher's aide

**SOCIETY  
MEMBERSHIPS**  
Graduate

AACR (2014 – present)

Undergraduate

Golden Key International Honor Society (2010 – present)  
Omicron Delta Kappa Honor Society (2010 – present)