



## Christopher Kilner

A311 Levine Sciences Research Center  
Nicholas School of the Environment  
Duke University, Durham, N.C. USA

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### EDUCATION

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NICHOLAS SCHOOL OF THE ENVIRONMENT, DUKE UNIVERSITY Durham, NC  
*Ph.D. in Ecology* May 2022 (Anticipated)

TRINITY COLLEGE DUBLIN Dublin, Ireland  
*Master of Science* December 8, 2017  
❖ Biodiversity and Conservation  
Cumulative GPA: A+

THE UNIVERSITY OF SCRANTON Scranton, PA  
*Bachelor of Science, summa cum laude* May 29, 2016

Majors:

- ❖ Biochemistry, Cell and Molecular Biology
- ❖ Environmental Science
- ❖ Philosophy

Minor:

- ❖ Political Science

Honors:

Special Jesuit Liberal Arts Honors Program  
Cumulative GPA: 4.00

GONZAGA COLLEGE HIGH SCHOOL Washington, DC  
*Class of 2012* June 3, 2012  
Cumulative GPA: 4.42

### RESEARCH INTERESTS and CIVIC FOCUS

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I am a humanitarian scientist interested in systems at various scales. As an ecologist, I am interested in the grand challenges of global change. Through remote sensing, bayesian modeling, and classic theory, I hope to answer questions surrounding seed mast at various scales in North American forests—and model future climate-induced change.

As a cell and molecular biologist, I am interested in the systems surrounding the lipid “organelle” and the interaction of fatty acids and mitochondria under various stress regimes—such as cancer.

Bridging the two levels of life, I am interested in the intersection of modern genomics and ecology, specifically how we can better model microbiomes and their changes in the future from climate change, habitat degradation, and shifting community dynamics.

As a humanitarian, I seek to advocate for and work with Native American communities through the non-profit I founded: The Woape Foundation ([woapefoundation.org](http://woapefoundation.org)).



## AWARDS, HONORS, and FELLOWSHIPS

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- ❖ W.D. Billings Fellowship, *Duke University* 2017 - 2018
- ❖ 2017 George J. Mitchell Scholar, *US-Ireland Alliance* 2017
- ❖ Presidential Scholar (Full-Tuition Paid),  
*The University of Scranton* 2012 - 2016
- ❖ Excellence in Biochemistry, Cell, and Molecular Biology,  
*The University of Scranton* 2016
- ❖ Student Life Award, *The University of Scranton* 2016
- ❖ Frank O'Hara Gold Medal for Highest GPA,  
*The University of Scranton* 2016
- ❖ Frank O'Hara Silver Medal for Highest GPA,  
*The University of Scranton* 2015
- ❖ Dean's List, *The University of Scranton* 2012 - 2016
- ❖ Rhodes Scholar Finalist, *The Rhodes Trust* 2015
- ❖ Marshall Scholar Finalist,  
*The Marshall Aid Commemoration Commission* 2015
- ❖ Barry M. Goldwater Scholar, *The Barry Goldwater Scholarship  
Excellence in Education Foundation* 2015
- ❖ National Champion, *Scholastic Rowing Association of America* 2012
- ❖ Jesuit Secondary Education Association Award,  
*Gonzaga College High School* 2012
- ❖ Barnes Award for Excellence in Character,  
*Gonzaga College High School* 2012
- ❖ Don H. Smith History Award, *Gonzaga College High School* 2012
- ❖ Fr. Ted Lilly Biology Award, *Gonzaga College High School*

## GRANTS

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**NPAC Grant** (\$1,399.99) 2018 -  
2019  
*Nicholas School of the Environment, Duke University*  
Title: *From Satellite to Survey: Leveraging Remote-Sensing, Sociology,  
and Ecology to Understand the Drivers, Retainers, and Persistence  
of Bushmeat Hunting in Tropical Gabon.*  
Co-PIs: Christopher Kilner and Graden Froese



## RESEARCH EXPERIENCE

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### Visiting Researcher

June - August 2016

Howard Hughes Medical Institute,  
Janelia Farm Research Campus

Ashburn, VA

- Research under the direction of Drs. Jennifer Lippincott-Schwartz, Carolyn Ott, Prabuddha Sangupta, and Arnold Seo: Development and analysis of multi-spectral RUSH cargo assays for the investigation of autophagic pathways and the role of various nutrient depletion regimes on autophagy. Research aims to better understand endoplasmic reticulum/golgi body/plasma membrane dynamics and physiology of cancer, diabetes, and obesity.

### Visiting Researcher

June 2014 - June 2016

The National Institutes of Health,  
National Institutes of Child and Human Development (NICHD)

Bethesda, MD

- Research under the direction of Drs. Jennifer Lippincott-Schwartz and Sarah Cohen: Development and analysis of Pulse-Chase fatty acid trafficking assays, investigation of inter & intra cellular fatty acid trafficking, and mitochondrial exchange dynamics under various nutrient depletion regimes. Research aims to better understand physiology of diabetes, obesity, and cancer.

### Student Researcher

February 2014-May 2016

The University of Scranton,  
Department of Biology

Scranton, PA

- Research under the direction of Dr. Kathleen Dwyer. The lab researches the functions of the *Receptor Like Kinase (RLK)* and *S-locus Cysteine Rich Like (SCRL)* genes of *Arabidopsis thaliana* via GUS Reporter Gene Analysis, RNAi, anti-sense RNA, and CRISPR-Cas9 genetic engineering. Research aims to better understand gene function and the viability of CRISPR/Cas9 for such research and teaching to undergraduates.

## PUBLICATIONS

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**Kilner, C.** Seeking a Healed Earth & Humanity: American Pragmatism, Karl Marx, and Native American Living. *Discourse: A Philosophy Journal*. 2016. 9(1), 60-73.

## PUBLIC PRESENTATIONS

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**Kilner, C.,** Long, S., Biondo, A., Conway, C., DiLeo, A., Frederick, N., McAndrew, N., McGraw, D., Musto, C., Ng, G., O'Neill, G., Sacks, C., Sarno, E., Sulzinski, M., Villa, A., Westawski, J., Nasrallah, J., Nasrallah, M., Dwyer, K. Design and Preparation of CRISPR Constructs Targeting *Arabidopsis thaliana* *Receptor Like Kinase (RLK)* and *Slocus Cysteine Rich Like (SCRL)* Genes. Poster presentation at: Celebrating Student Scholars; May 2016. Scranton, PA.



DeBoer, R., Biondo, A., Long, S., **Kilner, C.**, Roman, P., Walsh, L., Fenstermaker, T., Zuilkoski, K., Patel, D., Nasrallah, J., Nasrallah, M., Dwyer, K. Reporter Gene Analysis Of Five Members of the *SD-RLK* and *SCRL* Gene Families Found in *Arabidopsis thaliana*. Poster presentation at: Celebrating Student Scholars; May 2016. Scranton, PA.

**Kilner, C.**, Cohen, S., Lippincott-Schwartz, J. Visualizing Intercellular and Intracellular Fatty Acid Trafficking. Poster presentation at: NIH Summer Scholar Day; 2015 August 6. Bethesda, MD.

Zuilkoski, C., Fenstermaker, T., DeBoer, R., **Kilner, C.**, Dwyer, K., Nasrallah, J., Nasrallah, M. Reporter Gene Analysis of Members of the *SD-RLK* and *SCRL* Gene Families Found in *Arabidopsis thaliana*. Poster presentation at: Celebrating Student Scholars; May 2014, 2015. Scranton, PA.

## PROTOCOLS

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**Kilner, C.** DNA preparation and sequencing protocol for the lab of Dr. Jennifer Lippincott-Schwartz. National Institutes of Health, NICHD. 2014. *\*Internal use only\**

## TEACHING EXPERIENCE

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**Tutor** February 2013 - May 2016  
*The University of Scranton,* Scranton, PA  
*Center for Teaching and Learning Excellence*

Tutor in:

- Biology (General), Biochemistry, Business Ethics, Chemistry (General), Microbiology, Molecular Biology, Organic Chemistry, and Philosophy.

**Teaching Assistant** September 2013 - September 2014  
*The University of Scranton,* Scranton, PA  
*Center for Teaching and Learning Excellence*

Leadership and Civic Responsibility (LCR) INTD 290

- Course with focus on modern civic issues. Coursework: reading of 250 pages of primary literature (news articles, opinion pieces, peer-reviewed analysis) and 300 page book, as well as submission of a dozen reflection essays.
- Tasked with developing a course theme, selecting primary literature, and reviewing, summarizing, and providing feedback on the student essays and serving as a mentor to the students.



## WORK EXPERIENCE

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### Founder & Chairman

September 2011 - Current

*The Woape Foundation Corporation*

Rockville, MD

- Mission: to come to the aid of Native American children pursuing a brighter future for themselves and for their nation.
- Organize and manage all Corporation activity including fundraising, strategy, education, marketing, and website development and maintenance
- Have raised \$25,000+ to fight Native American poverty & racial injustice

### President

May 2015 - May 2016

*The University of Scranton Student Government*

Scranton, PA

- Served as Executive of Student Government, overseeing Senior Staff. Veto authority over legislation; managed \$465,000 budget
- Served as ex-officio member of The University of Scranton Board of Trustees
- Served as Executive member of University Governance Council and University Programming Council
- Appointed students to various leadership positions on campus
- Developed cross-campus mental health, diversity, and sustainability campaigns
- Instituted Student Government financial reform to respond to budget cuts

### Chief of Staff

May 2014 - May 2015

*The University of Scranton Student Government*

Scranton, PA

- Coordinated and managed all Senior Staff for Student Government
- Served as personal advisor to the President of Student Government
- Served as Parliamentarian of the Student Senate

### Landscaper

January 2008 - August 2016

*Self-Employed*

Rockville, MD

- Lawn manicuring and other landscaping services
  - Snow and leaf removal
  - Window, deck, and stone washing
  - Gardening
- Self-employment necessitates:
  - Managing a business
  - Customer relations, consulting
  - Maintaining equipment and inventory

## ACADEMIC SERVICE

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### Chair

2018 - 2019

*Annual Retreat and Symposium*

Durham, NC

University Program in Ecology

Duke University



- Co-Chair** 2018 - 2019  
*Invited Speaker Seminar Series* Durham, NC  
University Program in Ecology  
Duke University
- Co-Chair** 2018 - 2019  
*Program Website Maintenance* Durham,  
NC  
University Program in Ecology  
Duke University
- Co-Chair** 2018 - 2019  
*Themed Symposium* Durham, NC  
University Program in Ecology  
Duke University

## CIVIC and COMMUNITY SERVICE

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- Lay Minister** 2004 - Current  
*St. Elizabeth Catholic Church* Rockville, MD
- Alumni Mentor** 2015 - Current  
*Gonzaga College High School Crew Team* Washington, DC

## TECHNICAL SKILLS

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### Software

Office: Microsoft Office (Mac + PC), Adobe InDesign, Adobe Illustrator, Adobe Photoshop

Science: R, Rstudio, SPSS statistics, MrBayes, RAxML, Imagej, ArcGIS, ENVI

### Lab

PCR (various), manual DNA sequencing, DNA/plasmid construction and preparation, RNAi, anti-sense RNA, CRISPR/Cas9, Fixed and Live Cell Imaging, Fluorescence Microscopy, Cell Assay Development, one and two dimensional protein and DNA gel assays, various spectrometry/spectroscopy (NMR, UV/Vis, MALDI-TOF, Flame-ionized MS, HPLC, GC-MS), Anti-Septic technique, GUS Reporter Gene Analysis

### Coding

HTML, CSS, Java, R, Python, command-line



## REFERENCES

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**Robert Smith, PhD**

*The University of Scranton*

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Address:

Loyola Science Center  
The University of Scranton  
Scranton, Pennsylvania 18510  
United States of America

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**Sarah Cohen, PhD**

*University of North Carolina CH*

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sarah.cohen@nih.gov

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4309A MBRB  
Campus Box 7545  
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United States of America

Contact Phone: 301-402-1010

**Kathleen Dwyer, PhD**

*The University of Scranton*

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