

## **Katharine A. White, Ph.D.**

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### **EDUCATION**

2012 Ph.D., Chemistry, Massachusetts Institute of Technology, Cambridge, MA

2007 B.S., Chemistry, *summa cum laude*, Saint Mary's College, Notre Dame, IN

### **RESEARCH POSITIONS & TRAINING**

2019-pres. Clare Boothe Luce Assistant Professor of Chemistry and Biochemistry  
University of Notre Dame, Notre Dame, IN  
Member, Harper Cancer Research Institute  
Graduate Program Member: Chemistry & Biochemistry, Biophysics, and Integrated Biomedical Sciences (IBMS)

2012-2018 Postdoctoral Fellow, UCSF, San Francisco, CA

Advisor: Diane Barber

2007-2012 Graduate Research Assistant, MIT, Cambridge, MA

Advisor: Alice Ting

2006 Summer Research Intern, Eli Lilly and Co., Indianapolis, IN

Advisor: Anne Dantzig

2005 NSF Summer Research Intern, Columbia University, New York, NY

Advisor: Brian Gibney

2005-2007 Interdisciplinary Research Intern, Saint Mary's College, Notre Dame, IN

Advisors: Toni Barstis (Chemistry) & Joanne Snow (Mathematics)

### **AWARDS**

2019 Clare Boothe Luce Assistant Professorship

2013 Ruth L. Kirschstein NRSA Postdoctoral Fellowship

2013 American Cancer Society Postdoctoral Fellowship (declined)

2008 Outstanding Teaching Award, MIT Department of Chemistry

2007 Howard Hughes Medical Institute-MIT Teaching Assistant Fellowship

2007 Phi Beta Kappa; Sigma Xi

2007 Outstanding Undergraduate Research Award, American Chemical Society

### **RESEARCH FUNDING**

2019-2021 American Cancer Society-IRG

Principal Investigator; \$60,000

2019 Pilot Drug Discovery Grant, Warren Center for Drug Discovery

Principal Investigator; \$25,000

2013-2016 Ruth L. Kirschstein NRSA Postdoctoral Fellowship

Principal Investigator; \$152,838 (F32-CA177085)

2013-2015 National Institutes of Health R21

Co-author, PIs: D. Barber & R. Hernandez; \$371,000 (R21-CA178706)

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## PUBLICATIONS

### \* Equal Contribution, # Corresponding Author

13. **White KA**, Kisor K, Barber DL. Intracellular pH dynamics and charge-changing somatic mutations in cancer. *Cancer Metastasis Rev.* 38(1-2):17-24. (2019). [PMID: 30982102](#)
12. Grillo-Hill BK, **White KA**. Oncogenic  $\beta$ -catenin mutations evade pH-regulated degradation. *Mol Cell Oncol.* 6(1):1554470. (2019) [PMID: 30788422](#)
11. **White KA\***, Grillo-Hill BK\*, Esquivel M, Peralta J, Bui VN, Chire I, Barber DL.  $\beta$ -catenin is a pH sensor with decreased stability at higher intracellular pH. *JCB* 217(11):3965 (2018) [PMID: 30315137](#)  
Featured in JCB Special Collection (May 2019): Outstanding articles in the cell biology of adhesion
10. **White KA**, Garrido Ruiz D, Szpiech ZA, Strauli NB, Hernandez RD, Jacobson MP, Barber DL. Cancer-associated arginine-to-histidine mutations confer a gain in pH sensing to mutant proteins. *Sci. Signaling*, 10:eaam9931 (2017) [PMID: 28874603](#)
9. Vercoulen Y\*, Kondo Y\*, Iwig JS\*, Janssen A, **White KA**, Amini M, Barber DL, Kuriyan J, Roose JP. A histidine pH sensor regulates the activation of the Ras-specific guanidine nucleotide exchange factor RasGRP1. *eLife*, 6:e29002 (2017) [PMID:28952923](#)
8. Szpiech ZA, Strauli NB, **White KA**, Garrido Ruiz D, Jacobson MP, Barber DL, Hernandez RD. Prominent features of the amino acid mutation landscape cancer. *PLoS One*, 12(8):e0183273 (2017) [PMID: 28837668](#)
7. **White KA**, Grillo-Hill BK, Barber DL. Cancer cell behaviors mediated by dysregulated pH dynamics at a glance. *J. Cell Sci.*, 130:663-669 (2017) [PMID: 28202602](#)
6. Webb BA, **White KA**, Grillo-Hill BK, Schonichen A, Choi CC, Barber DL. A histidine cluster in the cytoplasmic domain of the Na-H exchanger NHE1 confers pH-sensitive PIP2 binding and regulates transporter activity. *JBC* 291:24096-104 (2016) [PMID: 27650500](#)
5. **White KA\***, Zegelbone PM. Directed evolution of a probe ligase with activity in the secretory pathway and application to imaging intercellular protein-protein interactions. *Biochemistry*, 21:3728-3739 (2013) [PMID: 23614685](#)
4. Uttamapinant C, Sanchez MI, Liu DS, Yao JZ, **White KA**, Grecian S, Clark S, Gee KR, Ting AY. Site specific protein labeling using PRIME and chelation-assisted click chemistry. *Nature Protocols* 8 (8):1620-1634 (2013) [PMID: 23887180](#)
3. Liu DS, Loh KH, Lam SS, **White KA**, Ting AY. Imaging trans-cellular neurexin-neurologin interactions by enzymatic probe ligation. *PLoS One* 8(2):e52823 (2013) [PMID: 23457452](#)
2. Uttamapinant C\*, **White KA\***, Baruah H, Thompson S, Fernández-Suárez M, Puthenveetil S, Ting AY. A fluorophore ligase for site-specific protein labeling inside living cells. *PNAS*, 107:10914-10919 (2010) [PMID: 20534555](#)  
Featured on PNAS Cover  
Highlights: *Nature Methods* 7, 584 (2010), F1000
1. Puthenveetil S, Liu DS, **White KA**, Thompson S, Ting AY. Yeast display evolution of a kinetically-efficient 13-amino acid substrate for lipoic acid ligase. *JACS*, 131:16430-8 (2009) [PMID: 19863063](#)

## NON-PEER REVIEWED PUBLICATIONS

1. **White KA**, Thompson-Peer KL. Peer mentoring—Colleagues as a resource for your career development. *ASCB Newsletter* October 2017. [LINK](#)

## SELECTED TALKS & SEMINARS

- |         |  |
|---------|--|
| 10/2019 | Wabash College, Department of Chemistry, Crawfordsville, IN            |
| 4/2019  | Purdue University, Department of Chemistry, West Lafayette, IN         |
| 3/2019  | Western Washington University, Department of Chemistry, Bellingham, WA |
| 01/2019 | Faculty Candidate Seminars (Notre Dame, UC Boulder, UPenn)             |

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### **SELECTED CONFERENCE INVITED TALKS**

- 3/2020 American Association for Cancer Research: Conference on Evolutionary Dynamics, Denver, CO  
\*Cancelled due to COVID-19
- 6/2019 Telluride Science Research Center: Protein Electrostatics, Telluride, CO
- 5/2019 5th Annual Midwest Tumor Microenvironment Meeting, South Bend, IN
- 6/2017 Telluride Science Research Center: Protein Electrostatics, Telluride, CO
- 2/2017 West Coast Epithelial Biology Annual Meeting, Avila Beach, CA
- 3/2016 Keystone Symposia: Cancer Pathophysiology, Breckenridge, CA
- 3/2016 West Coast Epithelial Biology Annual Meeting, Avila Beach, CA
- 12/2014 Annual Meeting of the American Society for Cell Biology, Philadelphia, PA  
(Microsymposium)
- 12/2011 Annual Meeting of the American Society for Cell Biology, Denver, CO
- 4/2009 NIH Nanomedicine Development Center 3<sup>rd</sup> Annual Meeting, Bethesda, MD

### **SELECTED CAMPUS PRESENTATIONS**

- 10/2019 Indiana University School of Medicine Seminar Series, South Bend, IN
- 10/2018 Notre Dame Biochemistry and Integrated Biomedical Sciences Retreat, Plymouth, IN
- 4/2018 UCSF Cell Biology, Cancer, Immunology Research In Progress Seminar
- 1/2018 UCSF Parnassus Cancer Research Day, San Francisco, CA  
Award: Best Postdoctoral Poster Presentation
- 4/2017 UCSF Mission Bay Research In Progress Seminar
- 2/2016 UCSF Cell Biology Research In Progress Seminar
- 4/2015 Helen Diller Family Comprehensive Cancer Center Retreat, Santa Cruz, CA.
- 10/2014 Annual UCSF Biomedical Sciences Retreat, Tahoe City, CA  
Award: Best Postdoctoral Poster Presentation
- 3/2010 Chemical Biology & Novel Therapeutics Program Meeting, Boston, MA

### **MENTORING**

#### **Post-doctoral Trainees**

- 2019- Ricardo Romero-Moreno (Ph.D., Integrated Biomedical Sciences, University of Notre Dame)
- 2019- Keelan Trull (Ph.D., Chemistry, Purdue University)

#### **Pre-doctoral Trainees**

- 2020- Jacob Wagner (Biophysics Program)
- 2020- Brandon Czowski (Biochemistry Program)
- 2019- Julia Spear (Integrated Biomedical Sciences Program)
- 2019- Caitlin Donahue (Biochemistry Program)

#### **Undergraduate Trainees**

- 2019- Jessamine Kuehn (Biochemistry, ND '22)
- 2019- Cameron Ekanayake (Pre-professional, ND '21)
- 2019- Derrick Ekanayake (Pre-professional, ND '21)
- 2019- Michael Siroky (Biochemistry, ND '22)

#### **Technicians/Staff**

- 2019- Jacob Smith (MS Pharmacogenomics, Manchester University, '19)
- 2019 Michelle Hasse Richmond (Consultant, Thrive Medical Device Consulting)

### **Mentee Awards**

- 4/2020 Rebecca Hizer Fellow, Taiclet Endowment for Excellence, University of Notre Dame  
*Caitlin Donahue*, \$5,000 supplies funding
- 4/2019 Notre Dame Research Like A Champion Award  
*Jessamine Kuehn*, \$12,000 stipend and supplies
- 4/2019 O'Brien Summer Research Fellowship  
*Caitlin Donahue*, \$6,000 stipend support

### **Mentees Selected External Presentations**

- 3/2020 American Chemical Society National Meeting  
Oral presentation *Caitlin Donahue*, moved virtual due to COVID-19

### **Mentoring Training**

- 8/2019 American Chemical Society New Faculty Workshop
- 11/2017 Scientific Leadership and Management Skills Course  
Mentoring and Leadership Training for New and Future Faculty
- 4/2017 Howard Hughes Medical Institute Gilliam Mentors Workshop  
Culturally Aware Mentoring: Enhancing your Skills

### **TEACHING**

- Spr. (Annual) Intermediary Metabolism (CHEM30342, Notre Dame)  
2019 Course Instructor Evaluation Composite Score: 4.8/5  
2020 Course Instructor Evaluation Composite Score: 5/5

### **SERVICE-INTERNAL**

- 2019- Member, Notre Dame Chemistry Ph.D. Graduate Admissions Committee
- 2019- Grant Reviewer: Harper Cancer Cures Venture (CCV) program
- 2019- Grant Reviewer: American Cancer Society-IRG internal award evaluation
- 2019 Member, Optical Microscopy Core Manager Search Committee

### Graduate Student Thesis Committee Service

- 1) Iker Soto (Biochemistry Ph.D. Program) Advisor: Patricia Clark
- 2) Vijay Velagala (Biology Ph.D. Program) Advisor: Jeremiah Zartman
- 3) Marwa Asem (reader)(Integrated Biomedical Sciences) Advisor: Sharon Stack

### **SERVICE-EXTERNAL**

- 2019- External Reviewer: *ACS Sensors, Cell Chem. Biol. MBoC*
- 2019 Selected Participant, NSF Biology Jumpstart meeting

### **OUTREACH**

- 2019-pres. Mentor, Advancing Women Leaders Mentor Program  
American Association of University Women, University of Notre Dame
- 4/23/19 Invited Speaker, "Setting Up Your Lab"  
Notre Dame Postdoc Women's Committee
- 2018-pres. Steering Committee Member, Women in STEM Professional Development Program  
Saint Mary's College, Notre Dame IN

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- 1/15/19 Session Chair, "Negotiation Strategies"  
Women in STEM Professional Development Workshop, Saint Mary's College
- 10/3/18 Session Chair, "Future Faculty Panel"  
Office of Career and Professional Development, University of California San Francisco
- 11/13/17 Session Chair, "Strategic Positioning: Why Women Need Sponsors"  
Women's Career Advancement Symposium, University of California San Francisco
- 2014-2018 Founder and President, Women Postdoc Peer Problem Solving Group  
University of California San Francisco