

**Alexis C. Komor**  
Assistant Professor  
Department of Chemistry and Biochemistry, UC San Diego  
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## EDUCATION

### California Institute of Technology

June 2014

- Ph.D. in Chemistry
- Cumulative GPA 4.00

### University of California, Berkeley

December 2008

- B.S. in Chemistry and Mathematics Minor
- Cumulative GPA 3.98

## AWARDS

- International Society for Transgenic Technologies Young Investigator awarded 2017
- National Institute of Health Ruth L. Kirchstein National Research Service Award Postdoctoral Fellowship awarded April 2015
- Herbert Newby McCoy Award in Chemistry awarded in June 2014
- National Science Foundation Graduate Research Fellowship awarded Fall 2010
- Caltech Institute Fellowship awarded 2009-2010 academic year
- Graduated with Highest Academic Honors from UC Berkeley
- Erich O. and Elly Saegbarth Prize in Chemistry awarded upon graduation from UC Berkeley
- Bruce Howard Memorial Scholarship for the 2006-2007, 2007-2008, and 2008-2009 academic years

## RESEARCH EXPERIENCE

### Assistant Professor

University of California, San Diego

July 2017-present

### Postdoctoral Scholar

Advisor: Prof. David R. Liu

September 2014-June 2017

- Engineering of Cas9 fusion enzymes for sequence-specific DNA editing technology

### Graduate Research Assistant

Advisor: Prof. Jacqueline K. Barton

August 2009-July 2014

- Development of Metalloinsertors with improved cell-selective anticancer activity

### Undergraduate Research Assistant

Advisor: Prof. Christopher J. Chang

June 2006-May 2009

- Design and synthesis of first-row transition metal catalysts for dioxygen activation and group transfer

## TEACHING AND LEADERSHIP EXPERIENCE

### Undergraduate Mentor

April 2012-September 2013

- Trained and supervised two Caltech undergraduates in the synthesis of rhodium metalloinsertors for improved DNA mismatch binding

#### Teaching Assistant

January 2012- March 2014

- Lectured 2 hours/ week for Chemistry 153 (graduate-level advanced inorganic chemistry)
- Head TA for Chemistry 112 (graduate-level inorganic chemistry)

#### Lab Lecturer

January 2009- May 2009

- Undergraduate Organic Chemistry laboratory lecturer at UC Berkeley

### PATENTS

“Fusions of cas9 domains and nucleic acid-editing domains” Liu, D. R.; Komor, A. C. US Patent App. US2015016680 A1

“Methods for nucleic acid editing” Liu, D. R.; Komor, A. C. US Patent App. US20150166981 A1

“Metalloinsertor complexes targeted to DNA mismatches” Barton, J. K.; Komor, A.C.; Schneider, C. J.; Weidmann, A. G.; Ernst, R. J. US Patent 9,051,345

### PUBLICATIONS

Rees, H. A.; **Komor, A. C.**; Yeh, W. H.; Caetano-Lopes, J.; Warman, M.; Edge, A. S. B.; Liu, D. R. “Improving the DNA specificity and applicability of base editing through protein engineering and protein delivery,” *Nat. Commun.* **2017**, 8, 15790.

Kim, Y. B.; **Komor, A. C.**; Levy, J. M.; Packer, M. S.; Zhao, K. T.; Liu, D. R. “Expanding the targeting scope of base editing with engineered Cas9-cytidine deaminase fusions,” *Nat. Biotechnol.* **2017**, 35, 371-376.

**Komor, A. C.**; Badran, A. H.; Liu, D. R. “CRISPR-based technologies for the manipulation of eukaryotic genomes,” *Cell* **2017**, 168, 20-36.

**Komor, A. C.**; Kim, Y. B.; Packer, M. S.; Liu, D. R. “Programmable editing of a target base in genomic DNA without double-stranded DNA cleavage,” *Nature* **2016**, 533, 420-424.

**Komor, A. C.**; Barton, J. K. “An Unusual Ligand Coordination Gives Rise to a New Family of Rhodium Metalloinsertors with Improved Selectivity and Potency,” *J. Am. Chem. Soc.* **2014**, 136, 14160-14172.

Weidmann, A. G.; **Komor, A. C.**; Barton, J. K. “Targeted Therapy with Metal Complexes,” *Comment. Inorg. Chem.* **2014**, 34, 1-10.

Bailis, J. M.; Gordon, M. L.; Gurgel, J. L.; **Komor, A. C.**; Barton, J. K.; Kirsch, I. R. “An Inducible, Isogenic Cancer Cell Line System for Targeting the State of Mismatch Repair Deficiency,” *PLOS ONE*, **2013**, 10, e78726.

Weidmann, A. G.; **Komor, A. C.**; Barton, J. K. “Biological Effects of Simple Changes in Functionality on Rhodium Metalloinsertors,” *Philos. Trans. R. Soc. A.*, **2013**, 371, 20120117.

**Komor, A. C.**; Barton, J. K. “The Path for Metal Complexes to a DNA Target,” *Chem. Commun.* **2013**, 49, 3617-3630. (Cover Article)

**Komor, A. C.**; Schneider, C. J.; Weidmann, A. G.; Barton, J. K. “Cell-Selective Activity of Rhodium Metalloinsertors Correlates with Subcellular Localization,” *J. Am. Chem. Soc.* **2012**, 134, 19223-19233.

Ernst, R. J.; **Komor, A. C.**; Barton, J. K. “Selective Cytotoxicity of Rhodium Metalloinsertors in Mismatch Repair-Deficient Cells,” *Biochemistry* **2011**, 50, 10919-10928.

Soo, H. S.; **Komor, A. C.**; Iavarone, A. T.; Chang, C. J. "A Hydrogen-Bond Facilitated Cycle for Oxygen Reduction by an Acid- and Base-Compatible Iron Platform," *Inorg. Chem.* **2009**, *48*, 10024-10035.

### PRESENTATIONS

Komor, A. C. "A new approach to genome editing," Genome Engineering 4.0, Broad Institute, Cambridge, MA, United States, May 6-7, 2016.

Komor, A. C.; Barton, J. K. "Development of rhodium metalloinsertors as chemotherapeutic agents," 249<sup>th</sup> ACS National Meeting & Exposition, Boulder, CO, United States, March 22-26, 2015, INOR-793. (Oral Presentation)

Komor, A. C.; Schneider, C. J.; Ernst, R. J.; Weidmann, A. G.; Barton, J. K. "Cell-Selective Biological Activity of Rhodium Metalloinsertors Correlates with Subcellular Localization," 245<sup>th</sup> ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013, INOR-1151. (Oral Presentation)

Komor, A. C.; Schneider, C. J.; Ernst, R. J.; Barton, J. K. "Cell-selective Activity of Rhodium Metalloinsertors," 243<sup>rd</sup> ACS National Meeting & Exposition, San Diego, CA, United States, March 25-29, 2012, INOR-169. (Poster Presentation)