

**Kathryn D. Mouzakis**  
**Department of Chemistry and Biochemistry**  
**Loyola Marymount University**  
**Los Angeles, CA 90045**  
**310-338-2943**

**EDUCATION**

**Postdoctoral Fellow**

*University of Wisconsin-Madison* 04/2013 – 07/2013  
Advisor: Dr. Samuel E. Butcher  
Structural studies of the *Israeli acute paralysis virus* intergenic region  
internal ribosome entry site pseudoknot I domain by NMR and SAXS.

**Ph.D. in Biochemistry**

*University of Wisconsin-Madison* 09/2007 – 04/2013  
Advisor: Dr. Samuel E. Butcher  
Thesis Title: The Structure and Function of the HIV-I Frameshift Site  
Stem-loop.

**Education in Scientific Teaching**

*University of Wisconsin-Madison* 09/2011 – 05/2012  
Wisconsin Program for Scientific Teaching - Howard Hughes Medical  
Institute Teaching Fellows Program  
Advisors: Dr. Katrina T. Forest & Sarah Miller

**B.S. in Chemistry and Biology (Joint Major)**

*Harvey Mudd College* 09/2003 – 05/2007  
Advisor: Dr. Karl A. Haushalter | Graduated with Distinction  
Thesis Title: DNA repair efficiency, thermal stability, and substrate  
specificity of variants of human 8-oxoguanine DNA glycosylase 1.

**ACADEMIC EMPLOYMENT**

**Assistant Professor**

*Loyola Marymount University* 08/2018 – present  
Department of Chemistry and Biochemistry  
*Fort Lewis College* 08/2013 – 08/2018  
Department of Chemistry and Biochemistry

**Summer Sabbatical**

*University of Colorado School of Medicine* 05/2018 – 07/2018  
Department of Biochemistry and Molecular Genetics 05/2017 – 07/2017  
*Laboratory of Dr. Jeffrey Kieft*

**TEACHING EXPERIENCE**

**Instructor (Academic Year (AY), Fall Semester (FA), Spring Semester (SP), Summer (SU))**

*Loyola Marymount University*  
CHEM 113, General Chemistry II Lab SP 2020, SU II 2020  
CHEM 373, Advanced Biochemistry Lab SP 2020  
CHEM 372, Advanced Biochemistry SP 2019, SP 2020  
BIO 598, Biology Honors Thesis SP 2020  
CHEM 397, Directed Research AY 2018 – 2019, SP 2020  
CHEM 497, Directed Research FA 2019

CHEM 478, Introduction to Virology	FA 2019
CHEM 111, General Chemistry I Lab	FA 2019
CHEM 370, Biochemistry	FA 2018, FA 2019
CHEM 371, Biochemistry Lab	FA 2018

Fort Lewis College

CHEM 313, General Biochemistry II	SP 2015, SP 2017, SP 2018
CHEM 150L, Fundamentals of Chemistry I Laboratory	AY 2014 – 2015, FA 2016, SP 2018
CHEM 299 or 499, Independent Study	AY 2016 – 2017, FA 2017, SP 2018
CHEM 496, Seminar I	FA 2017
CHEM 150, Fundamentals of Chemistry I	AY 2013 – 2014, FA 2015, SP 2017
CHEM 454, Special Topics in Protein and Nucleic Acid Biochemistry	FA 2016
CHEM 311, General Biochemistry I	AY 2014 – 2015, SP 2016, FA 2016
CHEM 411, Advanced Biochemistry Laboratory	SP 2014, SP 2016
CHEM 151, Fundamentals of Chemistry II	SP 2016
CHEM 151L, Fundamentals of Chemistry II Laboratory	FA 2015
CHEM 312, General Biochemistry Laboratory	FA 2013, FA 2015
CHEM 381, Introduction to Chemical Research	AY 2013 – 2014, AY 2014 – 2015

University of Wisconsin - Madison

Biochemistry 660, Biochemical Techniques	FA 2012
Biology 375, Exploring Biology	SP 2012
Biochemistry 651, Biochemistry Seminar	FA 2011

**Teaching Assistant (Fall Semester (FA), Spring Semester (SP))**University of Wisconsin - Madison

Biochemistry 508, General Biochemistry II	SP 2010
Biomolecular Chemistry 314, Introduction to Human Biochemistry	FA 2008

**ADVISING**

**Responsibilities include:** advising students in coursework, program, and career choices.

**SCHOLARSHIP/CREATIVE WORKS****Peer-reviewed Publications** (undergraduate co-author)

1. Thulson, E., Hartwick, E.W., Cooper-Sansone, A., Williams, M.A.C., Soliman, M.E., Robinson, L.K., Kieft, J.S., **Mouzakis, K.D.** (2020). An RNA Pseudoknot Stimulates HTLV-1 *pro-pol* Programmed -1 Ribosomal Frameshifting. *RNA*, 26(4), 512-528. doi: 10.1261/rna.070490.119
2. **Mouzakis, K.D.**, Wu, T., Haushalter, K.A. (2019). Thermostability and Excision Activity of Polymorphic Forms of hOGG1. *BMC Res Notes.*, 12(1), 92. doi: 10.1186/s13104-019-4111-9
3. Au, H.H., Cornilescu, G., **Mouzakis, K.D.**, Burke, J.E., Ren, Q., Lee, S., Butcher, S.E., Jan, E. (2015). Complete tRNA Mimicry Within a Viral Internal Ribosome Entry Site Mediates Translational Reading Frame Selection. *PNAS*, 112(47), E6446-6455. doi: 10.1073/pnas.1512088112

4. **Mouzakis, K.D.**, Dethoff, E.A., Tonelli, M., Al-Hashimi, H.M., Butcher, S.E. (2015). Dynamic Motions of the HIV-1 Frameshift Site RNA. *Biophysical Journal*, 108(3), 644-654. doi: 10.1016/j.bpj.2014.12.006
5. Low, J.T., Garcia-Miranda, P., **Mouzakis, K.D.**, Gorelick, R.J., Butcher, S.E., Weeks, K.M. (2014). Structure and Dynamics of the HIV-1 Frameshift Element RNA. *ACS Biochemistry*, 53(26), 4282-4291. doi: 10.1021/bi5004926
6. **Mouzakis, K.D.**, Lang, A.L., Vander Meulen, K.A., Easterday, P.D., Butcher, S.E. (2013). HIV-1 Frameshift Efficiency is Primarily Determined by the Stability of Base Pairs Positioned at the mRNA Entrance Channel of the Ribosome. *Nucleic Acids Research* 41(3), 1901-1913. doi: 10.1093/nar/gks1254
7. Marcheschi, R.J., **Mouzakis, K.D.**, Butcher, S.E. (2009). Selection and Characterization of Small Molecules that Bind the HIV-1 Frameshift Site RNA. *ACS Chemical Biology*, 4(10): 844-854. doi: 10.1021/cb900167m

### Book Chapters

1. **Mouzakis, K.D.**, Burke, J.E., Butcher, S.E. (2013). Investigating RNAs Involved in Translational Control by NMR and SAXS. In J. D. Dinman (Ed.), *Biophysical Approaches to Translational Control of Gene Expression* (pp. 141-172). London, England: Springer New York.

### External Grants

#### **Research Corporation for Science Advancement COVID Initiative Award**

Title: Targeting the SARS-CoV-2 Frameshift Site Pseudoknot.

Role: **Co-PI** (team lead) | Amount: \$55,000 | Award # 27339 | Award period: 06/15/2020 – 06/14/2021

#### **Research Corporation for Science Advancement Cottrell Scholar Award**

Title: Structural Basis of -1 Programmed Ribosomal Frameshifting by the Human T-cell Lymphotropic Virus Type I RNA.

Role: **PI** | Amount: \$100,000 | Award # 23983 | Award period: 07/2017 – 06/2021

#### **Cottrell Scholars Collaborative Catalyzing Joint Research Award**

Title: Measuring HTLV-1 programmed ribosomal frameshifting *in vivo*

Role: **Co-PI** | Amount: \$3,000 | Award period: 05/2019 – 05/2020

#### **Cottrell Scholars Collaborative MSI/PWI Partnerships Award**

Title: Seeding inclusive local networks for domain-specific research and teaching

Role: **Co-PI** | Amount: \$6,000 | Award period: 08/2018 – 08/2020

#### **NIH Support of Competitive Research (SCORE) Pilot Project Award (SC2)**

Title: Structural Basis of -1 Programmed Ribosomal Frameshifting by the Human T-cell Lymphotropic Virus Type I RNA.

Role: **PI** | Amount awarded: \$300,000 | Amount utilized: \$225,978 | Award # SC2GM121197 | Award period: 02/2017 – 08/2018

### Internal Grants

#### **Loyola Marymount University:**

##### **Center for Teaching Excellence Travel Grant**

Title: Travel support to attend the 2019 Cottrell Scholars Conference

Role: **PI** | Amount: \$500 | Award period: 06/2019 – 11/2019

##### **Seaver College Course Development Grant**

Title: Introduction to Virology

Role: **PI** | Amount: \$5,000 | Award period: 07/2019 – 10/2019

**Fort Lewis College:**

**Faculty Development Grant – Traditional Research / Scholarship**

Title: Determining the Mechanism of Frameshifting in Human T-cell Leukemia Virus.

Role: **PI** | Total Amount: \$9,450 | Number of awards: 5 | Award period: 01/2014 – 12/2017

**Faculty Development Grant – Teaching Innovation, Pedagogy and Assessment**

Title: Integrating Undergraduate Research into the Curriculum.

Role: **PI** | Total Amount: \$4,400 | Number of awards: 4 | Award period: 10/2014 – 12/2017

**Foundation Grant**

Titles: (A) Determining the Mechanism of Frameshifting in Human T-cell Leukemia Virus and (B) Integrating Undergraduate Research into the Curriculum.

Role: **PI** | Total Amounts: (A) \$4,223 and (B) \$3,500 | Award period: 01/2015 – 12/2016

**Teaching Empowerment Teams**

Titles: (A) Flipped Classrooms at FLC and (B) Testing an Active Learning Environment versus Traditional Classroom Lectures in First Semester General Chemistry Courses.

Role: **Co-PI** | Total Amounts: (A) \$500 and (B) \$500 | Award period: 01/2015 – 05/2015, 09/2014 – 12/2014

**PRESENTATIONS**

**Invited Oral Presentations**

“An RNA Pseudoknot Stimulates HTLV-1 *pro-pol* Programmed -1 Ribosomal Frameshifting.” Presented at the “Cold Spring Harbor Laboratory Virtual Conference: Retroviruses”, Los Angeles, CA, USA, May 20, 2020. Role: Presenter

“Active-learning in SCSE spaces.” Presented at the “LMU Center for Teaching Excellence New Faculty Seminar Series”, Los Angeles, CA, USA, October 31, 2019. Role: Presenter

“An RNA Pseudoknot Stimulates HTLV-1 *pro-pol* Programmed -1 Ribosomal Frameshifting.” Presented at the “University of Southern California Chemical Biology Seminar Series”, Los Angeles, CA, USA, October 10, 2019. Role: Presenter

“An RNA Pseudoknot Stimulates HTLV-1 *pro-pol* Programmed -1 Ribosomal Frameshifting.” Presented at the “Haverford Department of Chemistry Seminar Series”, Haverford, PA, USA, April 18, 2019. Role: Presenter

“Poll Everywhere Technology Integration Workshop.” Presented at the “LMU Center for Teaching Excellence Seminar Series”, Los Angeles, CA, USA, February 22, 2019. Role: Co-Presenter

“Reprogramming the Ribosome: Programmed Ribosomal Frameshifting in HTLV-1.” Presented at the “Harvey Mudd College Biology Colloquium”, Claremont, CA, USA, September 26, 2018. Role: Presenter

“Getting Involved in Undergraduate Research.” Presented at the “Fort Lewis College ASBMB Student Chapter: Discovering Research Series”, Durango, CO, USA, March 13, 2018. Role: Co-Presenter

“Solving a Problem of Supply and Demand: Increasing Availability of Undergraduate Research Experiences (UREs) by Integrating Course-based UREs (CUREs) into the Biochemistry Curriculum.” Presented at the “Cottrell Scholar Conference: More Viewpoints, Better Science”, Tucson, AZ, USA, July 12 – 14, 2017. Role: Presenter

“HIV-1 Frameshift Efficiency is Primarily Determined by the Stability of Three Base Pairs Positioned at the mRNA Entrance Channel of the Ribosome.” Presented at the “17<sup>th</sup> Annual Meeting of the RNA Society”, Ann Arbor, MI, USA, May 29 – June 2, 2012. Role: Presenter

**Poster Presentations** (undergraduate co-author, presenting author \*)

Eliza Thulson, Erik W. Hartwick, Andrew Cooper-Sansone, Marcus A. Williams, Jeffrey S. Kieft, and **Kathryn D. Mouzakis\***. An RNA Pseudoknot Stimulates HTLV-1 *pro-pol* -1 Programmed Ribosomal Frameshifting. *Keystone Positive-Strand RNA Viruses Symposia*, Killarney, Ireland, June 9-13, 2019.

Eliza A. Finke, Devon P. Chadeayne, Kathryn M. Durnford, Erik W. Hartwick, Erich G. Chapman, Andrew Cooper-Sansone, Marcus A. Williams, Uriah J. Contreras, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, Antonia L. Atene, Natalie S. Joe, Leandrew A. Dailey, Amanda Broad, Jason Mackenzie, Jeffrey S. Kieft, and **Kathryn D. Mouzakis\***. An RNA Pseudoknot Stimulates Human T-cell Lymphotropic Virus Type 1 *pro-pol* -1 Programmed Ribosomal Frameshifting. *RNA 2018: the 23<sup>rd</sup> Annual Meeting of the RNA Society*, Berkeley, CA, USA, May 29 – June 2, 2018.

**Kathryn D. Mouzakis\***. Determination of the HTLV-1 *pro-pol* Frameshift Site Secondary Structure. *Cottrell Scholar Conference: More Viewpoints, Better Science*, Tucson, AZ, USA, July 12 – 14, 2017.

Eliza A. Finke, Kathryn M. Durnford, Erich G. Chapman, Andrew Cooper-Sansone, Leandrew A. Dailey, Uriah J. Contreras, Amanda J. Broad, Jason T. Mackenzie, Jeffrey S. Kieft, and **Kathryn D. Mouzakis\***. Determination of the HTLV-1 *pro-pol* Frameshift Site Secondary Structure. *RNA 2017: the 22<sup>nd</sup> Annual Meeting of the RNA Society*, Prague, Czech Republic, May 30 – June 3, 2017.

**Kathryn D. Mouzakis\***, Eliza A. Finke, Devon P. Chadeayne, Kathryn M. Durnford, Amanda J. Broad, Jason T. Mackenzie. Determination of the HTLV-1 *pro-pol* Frameshift Site Secondary Structure. *Gordon Research Conference on Post-Transcriptional Gene Regulation*, Stowe, VT, USA, July 10 – 15, 2016.

**Kathryn D. Mouzakis\***. An RNA Research-based Advanced Biochemistry Laboratory Course: Design, Implementation, and Outcomes. *National Meeting of the American Society for Biochemistry and Molecular Biology*, Boston, MA, USA, March 28 – April 1, 2015.

**Kathryn D. Mouzakis\***, Melissa Cordes, Mindy Wesley, Julie Keating, Gilbert Jose, Brent Berger, Samuel Sibley, Katrina T. Forest. 2013. A Response to the NSF Call to Action in Undergraduate Biology Education. *Teaching and Learning Symposium*, Madison, WI, USA, May 22-23, 2013.

**Kathryn D. Mouzakis\***. 2012. The Role of RNA Structural Stability in HIV-1 -1 Programmed Ribosomal Frameshifting. *Department Seminar*, Carroll University, Waukesha, WI, USA, October 3, 2012.

**Kathryn D. Mouzakis\***, Ryan J. Marcheschi, Marco Tonelli, and Samuel E. Butcher. 2011. Orientation and Dynamics of the HIV-1 Frameshift RNA Stem-Loop are Influenced by Counterion and Ligand Interactions. *35<sup>th</sup> Steenbock Symposium: Advances in Biomolecular NMR*, Madison, WI, USA, June 26 – 28, 2011.

**Kathryn D. Mouzakis\*** and Samuel E. Butcher. 2010. The Role of the HIV-1 RNA Structure in Frameshifting Suggests Mechanical Stability Generally Regulates Frameshifting via Kinetic Control of Translation. *Post-transcriptional Control: mRNA Translation, Localization, and Turnover*, University of Edinburgh, UK, June 8 – 10, 2010.

**Kathryn D. Mouzakis\***, Ryan J. Marcheschi, Marco Tonelli, and Samuel E. Butcher. 2009. The Effects of Counter-ions and Ligands on the Orientation and Dynamics of the HIV-1 FS Stem-Loop. *NIH Meeting of Groups Studying the Structures of AIDS-Related Systems*, Bethesda, MD, USA, June 25 – 26, 2009.

Ryan Marcheschi\*, **Kathryn D. Mouzakis**, and Samuel Butcher. 2009. A High-Throughput Screen for Small Molecule Effectors of HIV-1 RNA Structure Identifies a Class of Drugs that Affect Translational Frameshifting. *14<sup>th</sup> Annual Meeting of the RNA Society*, Madison, WI, USA, May 26 – 30, 2009.

**Kathryn D. Mouzakis\***, Tiffany Wu, and Karl A. Haushalter. 2007. Thermolability and Compromised Excision Activity of Polymorphic Forms of hOGG1. *Keystone Symposium on Genome Instability and Repair*, Breckenridge, CO, USA, January 17 – 21, 2007.

**Kathryn D. Mouzakis\***, Tiffany Wu, and Karl A. Haushalter. Thermolability and Compromised Excision Activity of Polymorphic Forms of hOGG1. *Sigma XI student research presentations*, Claremont, CA, USA, November, 2005.

## **FACULTY-MENTORED STUDENT RESEARCH**

### **Internal Grants**

#### **Loyola Marymount University:**

##### **Rains Research Assistant Program**

Each \$1,750 award provides financial support to hire a student research assistant.

Role: Undergraduate Research Mentor | Total Amount: \$3,500 | Number of awards: 2 | Award period: 06/2019 – 05/2020

##### **LMU Summer Undergraduate Research Program**

Each \$1,500 award provides a 6-week part-time summer research stipend. Student awardees: Leila Robinson (LMU, '22) and Mary Soliman (LMU, '22').

Role: Undergraduate Research Mentor | Total Amount: \$3,000 | Number of awards: 2 | Award period: 05/2019 – 06/2019

##### **Honors Summer Research Fellowship**

Each award provides financial support for Honors students who wish to engage in faculty-mentored research and creative activities during the summer. Student awardees: Leila Robinson (LMU, '22).

Role: Undergraduate Research Mentor | Total Amount: \$3,991.69 | Number of awards: 1 | Award period: 05/2019 – 06/2019

##### **LMU Undergraduate Research Opportunities Program**

Each award provides financial support for students who wish to engage in faculty-mentored research. Student awardees: Leila Robinson (LMU, '22).

Role: Undergraduate Research Mentor | Total Amount: \$1,000 | Number of awards: 1 | Award period: 01/2019 – 5/2019

#### **Fort Lewis College:**

##### ***Student Research, Scholarly and Creative Activities Grant Program***

Each \$1,000 award supported the purchase of supplies and the cost of research-related travel for undergraduate research students. Student awardees: Marcus Williams (FLC, '20), Emily White (FLC, '18), Uriah Contreras (FLC, '19), Andrew Cooper-Sansone (FLC, '18), Eliza Finke (FLC, '17), Grace Sheridan (FLC, '16), Austin Derksen (FLC, '16), Devon Chadeayne (FLC, '17), Kathryn Durnford (FLC, '15), and Amanda Broad (FLC, '14).

Role: Mentor | Total Amount: \$10,000 | Award period: 01/2014 – 04/2018

**NIH MARC Undergraduate Student Training in Academic Research (U-STAR) Award (T34)**

Title: NIH Minority Research Training in Biomedical and Behavioral Stem Disciplines at FLC  
Role: Undergraduate Research Mentor on Dr. Leslie Sommerville's grant | Amount: \$2,250  
| Award # T34GM092711-06 | Award period: 09/2015 – 12/2016

**NSF/STEM Talent Expansion Program**

Title: Four Corners Undergraduate STEM Success  
Role: Undergraduate Research Mentor on Dr. Kim Hannula's grant | Amount: \$18,000 |  
Award # DUE-1068341 | Award period: 05/2015 – 06/2015, 05/2014 – 06/2014

**Invited Oral Presentations** (undergraduate co-author, presenting author \*)

Leandrew A. Dailey\* and **Kathryn D. Mouzakis**. Assessing the Programmed -1 Ribosomal Frameshifting (-1 PRF) Efficiency of point mutations naturally occurring within the *pro-pol* frameshift site of HTLV-I. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 19, 2018.

Amanda J. Broad\*, Jason T. McKenzie, and **Kathryn D. Mouzakis**. Determining the secondary structure of the HTLV *pro-pol* frameshift site using SHAPE chemical probing. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 24, 2014.

**Poster Presentations** (undergraduate co-author, presenting author \*)

Carolyn C. Egekeze\*, Mary E. Soliman, Leila K. Robinson, and **Kathryn D. Mouzakis**. Investigating Spacer-length and Effects of RNA Stem-loop Thermodynamic Stability on HTLV-1 *gag-pro* -1 PRF Efficiency. *Loyola Marymount University 12<sup>th</sup> Annual Undergraduate Research Virtual Symposium*. Los Angeles, CA, USA, April 18, 2020.

Mary E. Soliman\*, Leila K. Robinson\*, Carolyn C. Egekeze, and **Kathryn D. Mouzakis**. Determining how Stem-loop Structure Thermodynamic Stability Influences Frameshift Efficiency at the HTLV-1 *gag-pro* Frameshift Site. *Loyola Marymount University 12<sup>th</sup> Annual Undergraduate Research Virtual Symposium*. Los Angeles, CA, USA, April 18, 2020.

Leila K. Robinson\*, Carolyn C. Egekeze\*, Mary E. Soliman, and **Kathryn D. Mouzakis**. Determining how stem-loop structure thermodynamic stability influences frameshift efficiency at the HTLV-1 *gag-pro* frameshift site. *Southern California Conferences for Undergraduate Research*. San Marcos, CA, USA, November 23, 2019.

Carolyn C. Egekeze\*, Leila K. Robinson\*, Mary E. Soliman\*, and **Kathryn D. Mouzakis**. Determination of the Relationship Between Thermodynamic RNA Stem-Loop Stability and Frameshift Efficiency. *Loyola Marymount University 11<sup>th</sup> Annual Undergraduate Research Symposium*. Los Angeles, CA, USA, March 23, 2019.

Andrew Cooper-Sansone\*, Marcus Williams, Devon P. Chadeayne, Elena A. Mylroie, Uriah J. Contreras, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, Natalie S. Joe, and **Kathryn D. Mouzakis**. Evaluating the importance of pseudoknot formation to HTLV-1 *pro-pol* -1 programmed ribosomal frameshift stimulation. *National Meeting of the American Society for Biochemistry and Molecular Biology*, San Diego, CA, USA, April 21 – 25, 2018.

Marcus Williams\*, Andrew Cooper-Sansone, Devon P. Chadeayne, Elena A. Mylroie, Uriah J. Contreras, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, Natalie S. Joe, and **Kathryn D. Mouzakis**. Exploring the Significance of the Human T-cell Lymphotropic Virus Type-1 *pro-pol* Frameshift Site Pseudoknot. *National Meeting of the*

*American Society for Biochemistry and Molecular Biology*, San Diego, CA, USA, April 21 – 25, 2018.

Emily White\*, Tara Y. Abrams, Terrance Banks, Devon P. Chadeayne, Andrew Cooper-Sansone, Uriah J. Contreras, Leandrew A. Dailey, Summer S. Davis, Austin E. Eades, Shaun D. Greyeyes, Jacob A. Harrison, Adam E. Hamilton, Natalie S. Joe, Allison P. Knewitz, Jordan A. Stelmaszek, Elena A. Mylroie, Hannah P. Nash, Marcus A. Williams, **Kathryn D. Mouzakis**. Evaluation of *pro-pol* Frameshifting Efficiencies for Naturally Occurring Variants of HTLV-1. *National Meeting of the American Society for Biochemistry and Molecular Biology*, San Diego, CA, USA, April 21 – 25, 2018.

Andrew Cooper-Sansone\*, Marcus Williams, Devon P. Chadeayne, Elena A. Mylroie, Uriah J. Contreras, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, Natalie S. Joe, and **Kathryn D. Mouzakis**. Evaluating the importance of pseudoknot formation to HTLV-1 *pro-pol* -1 programmed ribosomal frameshift stimulation. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 19, 2018.

Marcus Williams\*, Andrew Cooper-Sansone, Devon P. Chadeayne, Elena A. Mylroie, Uriah J. Contreras, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, Natalie S. Joe, and **Kathryn D. Mouzakis**. Exploring the Significance of the Human T-cell Lymphotropic Virus Type-1 *pro-pol* Frameshift Site Pseudoknot. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 19, 2018.

Emily White\*, Tara Y. Abrams, Terrance Banks, Devon P. Chadeayne, Andrew Cooper-Sansone, Uriah J. Contreras, Leandrew A. Dailey, Summer S. Davis, Austin E. Eades, Shaun D. Greyeyes, Jacob A. Harrison, Adam E. Hamilton, Natalie S. Joe, Allison P. Knewitz, Jordan A. Stelmaszek, Elena A. Mylroie, Hannah P. Nash, Marcus A. Williams, **Kathryn D. Mouzakis**. Evaluation of *pro-pol* Frameshifting Efficiencies for Naturally Occurring Variants of HTLV-1. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 19, 2018.

Eliza A. Finke\* and **Kathryn D. Mouzakis**. Determination of the HTLV-1 *pro-pol* frameshift site RNA secondary structure. *American Society for Cell Biology*, San Francisco, CA, USA, December 3 – 7, 2016.

Eliza A. Finke\* and **Kathryn D. Mouzakis**. Determination of the secondary RNA structure and its importance to the HTLV-1 *pro-pol* frameshift site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 21, 2016.

Rebecca J. Salamon\*, Jamie A. Lee, and **Kathryn D. Mouzakis**. Minimal RNA Sequence Requirement of the HTLV-1 *gag-pro* RNA Frameshift Site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 21, 2016.

Hector I. Caldera\*, Devon P. Chadeayne\*, Forrest W. Eagle\*, Evita Martin\*, Jeovanna R. Rios\*, Melanie A. Walker\*, and **Kathryn D. Mouzakis**. Structure and Function of the HTLV-1 *pro-pol* frameshift site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 21, 2016.

Nathan J. Absher, Cooper W. Block, Maryln Chavez, Natalie Joe, Brent Lindquist-Kleissler, Elena A. Mylroie, and **Kathryn D. Mouzakis**. Studying the role of RNA secondary structure in Human T-cell Leukemia/Lymphotropic Virus Type 1 (HTLV-1) *gag-pro* -1 programmed frameshift site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 21, 2016.

Devon P. Chadeayne\*, Summer S. Davis, Shaun D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, and **Kathryn D. Mouzakis**. Structure and Function of the HTLV-1 *pro-pol*



Frameshift Site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 23, 2015.

Kathryn M. Durnford\*, Erich G. Chapman, Antonia L. Atene, Amanda J. Broad, Jason T. Mackenzie, Dan L. Yeager, Jeffrey S. Kieft, and **Kathryn D. Mouzakis**. Determination of the HTLV-1 *pro-pol* Frameshift Site Secondary Structure. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 23, 2015.

Devon P. Chadeayne\*, Summer S. Davis, Shaun D. Greyeyes, Allison P. Knewitz, Jordon A. Stelmaszek, and **Kathryn D. Mouzakis**. Structure and Function of the HTLV-1 *pro-pol* Frameshift Site. *National Meeting of the American Society for Biochemistry and Molecular Biology*, Boston, MA, USA, March 28 – April 1, 2015.

Kathryn M. Durnford\*, Erich G. Chapman, Antonia L. Atene, Amanda J. Broad, Jason T. Mackenzie, Dan L. Yeager, Jeffrey S. Kieft, and **Kathryn D. Mouzakis**. 2015. Determination of the HTLV-1 *pro-pol* Frameshift Site Secondary Structure. *National Meeting of the American Society for Biochemistry and Molecular Biology*, Boston, MA, USA, March 28 – April 1, 2015.

Devon P. Chadeayne\*, Summer S. Davis, Shawn D. Greyeyes, Allison P. Knewitz, Jordan A. Stelmaszek, and **Kathryn D. Mouzakis**. Reprogramming the Ribosome: Structure and Function of the HTLV *pro-pol* Frameshift Site RNA. *NSF FOCUSS Poster Session*, Durango, CO, USA, June 23, 2014.

Melvina S. Lake\*, Audrianna M. Lee\*, Serena R. Mancha\*, **Kathryn D. Mouzakis**. The Effects of Local and Global RNA Stability on Frameshift Efficiency in the HTLV-II *gag-pro* Frameshift Site. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 24, 2014.

Summer S. Davis\*, Shawn D. Greyeyes\*, Allison P. Knewitz\*, Jordan A. Stelmaszek\*, and **Kathryn D. Mouzakis**. Does Pseudoknot Formation play a role in HTLV-1 *pro-pol* Frameshift Efficiency? *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 24, 2014.

Antonia L. Atene\*, Kolette D. Dayish\*, Marcus M. Warriner\*, Daniel L. Yeager\*, and **Kathryn D. Mouzakis**. Determining the Secondary Structure of HTLV-1 *pro-pol* Frameshift Site using NMR and Native Gel Analysis. *Undergraduate Research and Creative Activities Symposium*, Durango, CO, USA, April 24, 2014.

#### **Research Students** (student co-author on a peer-reviewed publication\*)

Madison Maille (LMU, Biochemistry Major, '23)	2020
Michael Liu (LMU, Biology Major, '22)	2020
Leila Robinson* (LMU, Biology Major, '22)	2019 – 2020
Mary Soliman* (LMU, Biochemistry Major, '22)	2019 – 2020
Carolyn Egekeze (LMU, B.S. in Biology, '20)	2019 – 2020
Douglas Kitchen (LMU, B.S. Biochemistry, '19)	2018 – 2019
Katerina Harrop (LMU, B.S. Biochemistry, '19)	2018 – 2019
Walter Potter (FLC, B.S. Biochemistry, '19)	2018
Harry Spencer (FLC, B.S. Biochemistry, '19)	2018
Emily White (FLC, B.S. in Biochemistry, '18)	2017 – 2018
Marcus Williams* (FLC, Biochemistry Major, '20)	2017 – 2018
Andrew Cooper-Sansone* (FLC, B.S. in Cellular and Molecular Biology, '18)	2017 – 2018
Eliza Thulson (Finke)* (FLC, B.S. in Cell & Molecular Biology, '17)	2015 – 2017
Erin Gaffney (FLC, B.S. in Chemistry – Biochemistry option, '17)	2016 – 2017
Uriah Contreras (FLC, B.S. Biochemistry, '19)	2017
Elena Mylroie (FLC, B.S. in Chemistry – Biochemistry option, '16)	2017

Rebecca Salamon (FLC, B.S. in Cell & Molecular Biology, '18)	2015 – 2016
Leandrew Dailey (FLC, B.S. in Biochemistry, '18)	2016
Devon Chadeayne (FLC, B.S. in Chemistry – Biochemistry option, '17)	2014 – 2015
Melanie Walker (FLC, B.S. in Chemistry – Biochemistry option, '16)	2015
Kathryn Durnford (FLC, B.S. in Cell & Molecular Biology, '15)	2014 – 2015
Antonia Atene (FLC, B.S. in Chemistry – Biochemistry option, '15)	2014 – 2015
Natalie Joe (FLC, B.S. in Chemistry – Biochemistry option, Cell & Molecular Biology, '16)	2015
Jamie Lee (San Juan Community College, Associates Degree, '15)	2015
Austin Derksen (FLC, B.S. in Cell & Molecular Biology, '16)	2015
Grace Sheridan (FLC, B.S. in Cell & Molecular Biology, '16)	2015
Melvina Lake (FLC, B.S. in Chemistry – Biochemistry option, '15)	2014
Amanda Broad (FLC, B.S. in Chemistry – Biochemistry option, '15)	2014
Jason Mackenzie (FLC, B.S. in Chemistry – Biochemistry option, '15)	2014
Alexander J. Blume (UW-Madison, B.S. in Biochemistry, '14)	2012 – 2013
Preston D. Easterday* (UW-Madison, B.S. Biochemistry, '12)	2011 – 2012
Andrew L. Lang* (UW-Madison, B.S. Biochemistry, '12)	2010 – 2011
Salman Hasan (Indian Institute of Science Edu. & Research - Kolkata, MS. '11)	2010

#### Students Mentored During a Course-based Undergraduate Research Experience

Leandrew Dailey (FLC, B.S. in Biochemistry, '18)	CHEM 496 – FA 2017
Austin Eades (FLC, B.S. in Biochemistry, '18)	CHEM 496 – FA 2017
Jacob Harrison (FLC, B.S. in Biochemistry, '18)	CHEM 496 – FA 2017
Adam Hamilton (FLC, B.S. in Biochemistry, '19)	CHEM 496 – FA 2017
Hannah Nash (FLC, B.S. in Biochemistry, '18)	CHEM 496 – FA 2017
Terrance Banks (FLC, B.S. in Biochemistry, '19)	CHEM 496 – FA 2017
Tara Abrams (FLC, B.S. in Biochemistry, '19)	CHEM 496 – FA 2017
Elena Mylroie (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Nathan Absher (FLC, B.S. in Chemistry – Biochemistry option, '17)	CHEM 411 – SP 2016
Cooper Block (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Forrest Eagle (FLC, B.S. in Chemistry – Biochemistry option, '17)	CHEM 411 – SP 2016
Marlyn Chavez (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Evita Martin (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Brent Lindquist-Kleissler (FLC, B.S. in Chemistry – Biochemistry option, '17)	CHEM 411 – SP 2016
Hector Caldera (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Jeovanna Rios (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Melanie Walker (FLC, B.S. in Chemistry – Biochemistry option, '16)	CHEM 411 – SP 2016
Devon Chadeayne (FLC, B.S. in Chemistry – Biochemistry option, '17)	CHEM 411 – SP 2016
Natalie Joe (FLC, B.S. in Chemistry – Biochemistry option, Cell & Molecular Biology, '16)	CHEM 411 – SP 2016
Antonia Atene (FLC, B.S. in Chemistry – Biochemistry option, '15)	CHEM 411 – SP 2014
Summer Davis (FLC, B.S. in Chemistry – Biochemistry option, '14)	CHEM 411 – SP 2014
Kolette Dayish (FLC, B.S. in Chemistry – Biochemistry option, '15)	CHEM 411 – SP 2014
Allison Knewitz (FLC, B.S. in Chemistry – Biochemistry option, '14)	CHEM 411 – SP 2014
Shawn Greyeyes (FLC, B.S. in Chemistry – Biochemistry option, '15)	CHEM 411 – SP 2014
Melvina Lake (FLC, B.S. in Chemistry – Biochemistry option, '15)	CHEM 411 – SP 2014
Audrianna Lee (FLC, B.S. in Chemistry – Biochemistry option, '15)	CHEM 411 – SP 2014
Serena Mancha (FLC, B.S. in Chemistry – Biochemistry option, '14)	CHEM 411 – SP 2014
Jordan Stelmaszek (FLC, B.S. in Chemistry – Biochemistry option, '14)	CHEM 411 – SP 2014

Marcus Warriner (FLC, B.S. in Cell & Molecular Biology option, '14)  
Daniel Yeager (FLC, B.S. in Chemistry – Biochemistry option, '14)

CHEM 411 – SP 2014  
CHEM 411 – SP 2014

### **LOYOLA MARYMOUNT UNIVERSITY SERVICE**

(University (U), College (C), or Department (D) level)

Sabbatical Review Committee (U)	2020 – present
Interim member of the Honors Advisory Council (U)	2020 – present
Seaver College Curriculum Committee (C)	2019 – present
Department Assessment Committee (D)	2018 – present
Department Ad hoc Committee on Workload (D)	2018 – present
Academic Advisor for Biochemistry Majors (D)	2018 – present
Interim member of the Sabbatical Review Committee (U)	Spring 2020

### **FORT LEWIS COLLEGE SERVICE**

(University (U), College (C), or Department (D) level)

Faculty Senate Science Representative (U)	2016 – 2018
Faculty Mentor to two out-of-department Assistant Professors (C)	2016 – 2018
Safe Zone Ally (U)	2015 – 2018
Undergraduate Scholarly and Creative Activities Grant Reviewer (C)	2015 – 2018
Chemistry and Biochemistry Seminar Series Organizer (D)	2014 – 2018
Major contributor to the Chemistry Department Assessment Plan (D)	2013 – 2018
Advisor for Chemistry and Biochemistry Majors (D)	2013 – 2018
Fort Lewis College Business Competition Advisory Board Member (U)	2015 – 2017
Assistant Professor in Mathematics Search Committee Member (C)	2016
New Student Orientation Professor's Perspective Panel Member (U)	2016
Chemistry Club Faculty Advisor (D)	2015 – 2016
Undergraduate Research and Creative Activities Symposium Faculty Liaison (C)	2015 – 2016
Women in Science Student Organization Faculty Advisor (C)	2015
Assistant Professor in Physical Chemistry Search Committee Member (D)	2015
Assistant Professor in Molecular Microbiology Search Committee Member (C)	2014
Visiting Chemistry Instructor Search Committee Member (D)	2014

### **UNIVERSITY OF WISCONSIN – MADISON SERVICE**

(University (U), College (C), or Department (D) level)

Teaching and Learning Symposium Co-Organizer (U)	2012 – 2013
Life Sciences Career Day Co-Organizer (C)	2011 – 2012
Integrated Program in Biochemistry Student-Faculty Liaison Committee (D)	
Vice President	2010 – 2012
Social Chair	2009 – 2010
New Student Orientation Committee (D)	2009

### **PROFESSIONAL SERVICE**

Cottrell Scholar Regional Meeting Committee Member	03/2020 – present
Ad Hoc Grant Reviewer for Research Corporation for Science Advancement	09/2018, 09/2019
Cottrell Scholars Panel Member at the RCSA Board Meeting	02/2019
Facilitator at the Cottrell Scholars Collaborative MSI/PWI Partnerships Workshop	07/2018
Mentor at the RNA Society Mentor-Mentee Luncheon	06/2017 & 06/2018

Career Panel Member at the Gordon Research Seminar on Post-Transcriptional Gene Regulation Meeting	07/2016
Facilitator at the National Academies Mountain West Summer Institute	06/2015
Undergraduate Poster Competition Judge at the American Society for Biochemistry and Molecular Biology Annual Meeting	03/2015

### **HONORS AND AWARDS**

RNA Society Travel Fellowship	2017, 2018
Cottrell Scholar Award	2017
Gordon Conference Travel Award	2016
Fort Lewis College New Faculty Teaching Award	2016
ASBMB Faculty Travel Award	2015
National Academies Education Fellow in the Life Sciences	2013 – 2014
UW-Madison Honored Instructor Award for Teaching Excellence	2012
UW-Madison Biochemistry Travel Award	2010, 2012
UW-Madison Vilas Travel Grant	2010

### **PROFESSIONAL ACTIVITIES**

RNA Society – Member	2012, 2017 – present
Cottrell Scholars Collaborative Academic Leadership Training Workshop – Participant	02/2019
Council on Undergraduate Research Proposal Writing Institute – Participant	07/2015
Council on Undergraduate Research – Member	2015
American Society for Biochemistry and Molecular Biology – Member	2015
Biochemical Society – Member	2010