

Kotaro Nakanishi

The Ohio State University
 Department of Chemistry and Biochemistry
 496 W 12th Ave.
 Columbus, OH 43210-1292

Phone: 614-688-2188
 Email: nakanishi.9@osu.edu
 Website: <http://u.osu.edu/nakanishilab/>
 Twitter: https://twitter.com/nakanishi_lab

Employment

- 2019 – Associate Professor, The Ohio State University, Dept. of Chemistry and Biochemistry
 2013 – 2019 Assistant Professor, The Ohio State University, Dept. of Chemistry and Biochemistry
 2013 Senior Research Scientist, Memorial Sloan-Kettering Cancer Center, New York. Mentor: Dinshaw J. Patel
 2011 – 2013 Research Associate, Memorial Sloan-Kettering Cancer Center, New York. Mentor: Dinshaw J. Patel
 2008 – 2011 Research Fellow, Memorial Sloan-Kettering Cancer Center, New York. Mentor: Dinshaw J. Patel
 2007 – 2008 Postdoctoral Fellow, Tokyo Institute of Technology, Tokyo, Japan. Mentor: Osamu Nureki
 2003 – 2004 Research Scientist at Taiho Pharmaceutical Company Ltd., Japan

Advisor & Co-founder

- 2023 – City Therapeutics, Inc.

Education

- 1996 – 2000 BS, Biochemistry, Tokyo University of Science, Japan, Mentor: Hayao Taguchi
 2001 – 2003 MS, Biochemistry, The University of Tokyo, Japan, Mentor: Haruhiko Masaki
 2004 – 2007 D.Sc., Biological Information, Tokyo Institute of Technology, Japan, Mentor: Osamu Nureki

Fellowships and Awards

- 2013 – 2017 PRESTO (Japan Science and Technology Agency)
 2013 The Young Scientists' Prize of the Commendation for Science and Technology by the Japanese Minister of Education, Culture, Sports, Science and Technology
 2012 RNA Society/Scaringe Award
 2011 New York Structural Biology Discussion Group Outstanding Poster Prize
 2009 – 2011 Human Frontier Science Program Long-term Fellow
 2008 – 2009 Japan Society of the Promotion of Science, Postdoctoral Fellowship for Research Abroad
 2006 – 2008 Japan Society of the Promotion of Science, Research Fellowship for Young Scientist

RESEARCH**Research Statements**

My research interest is to understand how non-coding RNAs and their cognate-binding proteins control eukaryotic gene expressions. To this end, my group uses a combinatorial approach of molecular biology, biochemistry, biophysics, cell biology, and structural biology. Throughout my entire research career, I have studied non-coding RNAs (i.e., I determined the crystal structures of aminoacyl-tRNA synthetase, tRNA modification enzyme, yeast Argonaute, yeast Dicer, human Argonaute1, etc. during my Ph.D. and postdoc training). After joining The Ohio State University as an assistant professor, my lab determined the first crystal structures of Argonaute3 and Argonaute4 and discovered that Argonaute3 has RNA-slicing activity when loaded with specific microRNAs. Also, I found that Argonaute proteins require their bilobed structure to check the base complementarity between the guide and target strands. My group recently identified the tiny RNA biogenesis pathway where several 3'→5' exonucleases, such as ISG20, TREX1, and ERI1, trim Argonaute-associated miRNAs down to 14 nucleotides or shorter. Some of the resultant tiny RNAs make Argonaute3 a competitive slicer to Argonaute2. Meanwhile, I developed a programmable RNA restriction enzyme by loading a specific DNA guide into a budding yeast Argonaute protein.

Publications

29. Nakanishi K. (2023) When Argonaute takes out the RNase sword. **J. Biol. Chem.** Solicited Review.
28. Shen Z, Yang XY, Xia S, Huang W, Taylor DJ, Nakanishi K., Fu TM (2023) Oligomerization-mediated activation of a short prokaryotic Argonaute. **Nature** Published as “Accelerated Article Preview.”
27. Huberdeau MQ, Shah VN, Nahar S, Neumeier J, Houle F, Bruckmann A, Gypas F, Nakanishi K., Großhans H, Meister G, Simard MJ. (2022) A specific Argonaute phosphorylation regulates the binding to microRNAs during *C. elegans* development. **Cell Reports**, 41, 111822.
26. Sim GY, Kehling AC, Park MS, Secor J, Divoky C, Zhang H, Malhotra N, Bhagdikar D, Abd El-Wahab EW, Nakanishi K. (2022) Manganese-dependent microRNA trimming by 3'→5' exonucleases generates 14-nucleotide or shorter tiny RNAs. **Proc. Natl. Acad. Sci. USA**, 119, e2214335119.
25. Nakanishi K. (2022) Anatomy of four human Argonaute proteins. **Nucleic Acids Res.**, 50, 6618-6638.
24. Nakanishi K. (2021) Are Argonaute-associated tiny RNAs junk, inferior miRNAs, or a new type of functional RNAs? **Front. Mol. Biosci.**, Dec 3;8:795356.
23. Li YC, Chao TC, Kim HJ, Cholko T, Chen SF, Li G, Snyder L, Nakanishi K., Chang C, Murakami K, Garcia BA, Boyer TG, Tsai KL (2021) Structure and noncanonical Cdk8 activation mechanism within an Argonaute-containing Mediator kinase module. **Science Advances**, 7: eabd4484.
22. Park MS, Sim GY, Kehling AC, Nakanishi K. (2020) Human Argonaute2 and Argonaute3 are catalytically activated by different lengths of guide RNA. **Proc. Natl. Acad. Sci. USA**, 117, 28576-28578.
21. Park MS, Araya-Secchi R, Brackbill JA, Phan HD, Kehling AC, Abd El-Wahab EW, Dayeh DM, Sotomayor M., Nakanishi K. (2019) Multidomain Convergence of Argonaute During RISC Assembly Correlates with the Formation of Internal Water Clusters. **Molecular Cell**, 75, 725-740.
20. Dayeh DM., Cantara WA., Kitzrow J., Musier-Forsyth K., Nakanishi K. (2018) Argonaute-based programmable RNase as a tool for cleavage of highly-structured RNA. **Nucleic Acids Res.**, gky496, <https://doi.org/10.1093/nar/gky496>.
19. Dayeh DM., Kruithoff BC., Nakanishi K. (2018) Structural and functional analyses reveal the contributions of the C- and N-lobes of Argonaute protein to selectivity of RNA target cleavage. **J. Biol. Chem.**, 203, 6308-6325.
18. Gangras P., Dayeh D.M., Mabin J., Nakanishi K., Singh G. (2017) Cloning and identification of recombinant Argonaute-bound small RNAs using next-generation sequencing. **Methods Mol. Biol.**, 1680, 1-28.
17. Phan HD., Li J., Poi M., Nakanishi K. (2017) Quantification of miRNAs co-immunoprecipitated with Argonaute proteins using SYBR Green-based qRT-PCR. **Methods Mol. Biol.**, 1680, 29-40.
16. Park MS., Phan HD., Busch F., Hinckley SH., Brackbill JA., Wysocki VH., Nakanishi K. (2017) Human Argonaute3 has slicer activity. **Nucleic Acids Res.**, 45, 11867-11877.
15. Danhart EM., Bakhtina M., Cantara WA., Kuzmishin AB., Ma X., Sanford BL, Košutić M., Goto Y., Suga H., Nakanishi K., Micura R, Foster MP, Musier-Forsyth K. (2017) Conformational and chemical selection by a trans-acting editing domain. **Proc. Natl. Acad. Sci. USA.**, 114, E6774-E6783.
14. Jannot G., Michaud P., Quévillon Huberdeau M., Morel-Berryman L., Brackbill J.A., Piquet S., McJunkin K., Nakanishi K., Simard MJ. (2016) GW182-Free microRNA Silencing Complex Controls Post-transcriptional Gene Expression during *Caenorhabditis elegans* Embryogenesis. **PLoS Genet.**, E1006484.
13. Sun HL., Cui R., Zhou J., Teng KY., Hsiao YH., Nakanishi K., Fassan M., Luo Z., Shi G., Tili E., Kutay H., Lovat F., Vicentini C., Huang HL., Wang SW., Kim T., Zanesi N., Jeon Y.J., Lee T.J., Guh J.H., Hung MC.,
12. Ghoshal K., Teng CM., Peng Y. & Croce CM. (2016) ERK Activation Globally Downregulates miRNAs through Phosphorylating Exportin-5. **Cancer Cell**, 14, 723-736.

11. Nakanishi K. Anatomy of RISC: How do small RNA and chaperones activate Argonaute proteins? (2016) **Wiley Interdiscip. Rev. RNA.**, 7, 637-60.
10. Swarts DC., Makarova K., Wang Y., Nakanishi K., Ketting RF., Koonin EV., Patel DJ., van der Oost J. (2014) The evolutionary journey of Argonaute proteins from a structure-function perspective. **Nat. Struct. Mol. Biol.**, 21, 743-53.
9. Nakanishi K., Ascano M., Gogakos T., Ishibe-Murakami S., Serganov AA., Briskin D., Morozov P., Tuschl T., Patel DJ. (2013) Eukaryote-Specific Insertion Elements Control Human ARGONAUTE Slicer Activity. **Cell Rep.** 3, 1893-1900.
8. Shen J., Xia W., Khotskaya YB., Huo L., Nakanishi K., Lim SO., Du Y., Wang Y., Chang WC., Chen CH., Hsu JL., Lam YC., James BP., Liu CG., Liu X., Patel DJ., Hung MC. (2013) EGFR Modulates miRNA Maturation in Response to Hypoxia through Phosphorylation of Ago2. **Nature** 497, 383-387.
7. Nakanishi K., Weinberg DE., Bartel DP., Patel DJ. (2012) Structure of yeast Argonaute with guide RNA. **Nature** 486, 368-374.
6. Weinberg DE., Nakanishi K., Patel D.J., Bartel DP. (2011) The inside-out mechanism of Dicers from budding yeasts. **Cell** 146, 262-276.
5. Nakanishi K., Bonnefond L., Kimura S., Suzuki T., Ishitani R., Nureki O. (2009) Structural basis for translational fidelity ensured by transfer RNA lysidine synthetase. **Nature** 461, 1144-1148.
4. Nakanishi K., Ogiso Y., Nakama T., Fukai S., Nureki O. (2005) Structural basis for anticodon recognition by methionyl-tRNA synthetase. **Nat. Struct. Mol. Biol.** 12, 931-932.
3. Nakanishi K., Fukai S., Ikeuchi Y., Soma A., Sekine Y., Suzuki T., Nureki O. (2005) Structural basis for lysidine formation by ATP pyrophosphatase accompanied by a lysine-specific loop and a tRNA-recognition domain. **Proc. Natl. Acad. Sci. U.S.A.** 24, 7487-7492.
2. Nakanishi K., Nureki O. (2005) Recent progress of structural biology of tRNA processing and modification. **Mol. Cells.** 19, 157-166.
1. Yajima S., Nakanishi K., Takahashi K., Ogawa T., Hidaka M., Kezuka Y., Nonaka T., Ohsawa K., Masaki H. (2004) Relation between tRNase activity and the structure of Colicin D according to X-ray crystallography. **Biochem. Biophys. Res. Commun.** 24, 966-973.

Edited Books

Okamura K., Nakanishi K. Argonaute Proteins: Methods and Protocols (2018). Springer.

Seminars and Talks

Gene Silencing by cityRNAs. Laboratory for Biochemistry and Molecular Biology (NIH). Bethesda. April 25, 2024

Gene Silencing by cityRNAs. National Cancer Institute RNA Biology Laboratory Seminar (NIH). Frederick. November 13, 2023

Gene Silencing by cityRNAs. Case Western Reserve University. Cleveland. October 11, 2023.

Gene Silencing by cityRNAs. Structure, Function and Dynamics International Conference. Waikiki. September 29, 2023.

Gene Silencing by cityRNAs. University of Florida. Gainesville. September 18, 2023.

Gene Silencing by cityRNAs. Biochemistry Seminar. Ohio State University. Columbus. August 24, 2023.

Tiny RNAs beneath the layer of microRNAs. CMBP/CRB Meeting. Columbus. May 9, 2023.

Tiny RNAs beneath the layer of microRNAs. Barbados Silencing Meeting. Barbados. April 1, 2023.

- Tiny RNAs beneath the layer of microRNAs.* microRNA Symposium. University of Illinois Chicago, USA. October 7, 2022.
- Global microRNA trimming generates their tiny RNAs.* Argonaute Meeting. University of Regensburg, Germany. August 24-27, 2022.
- Biogenesis of tiny RNAs.* The RNA Society Meeting. University of Colorado. June 4, 2022.
- Biogenesis of tiny RNAs.* Interdisciplinary Graduate Programs. Columbus. May 24, 2022.
- Biogenesis of tiny RNAs.* Regulatory & Non-coding RNAs. The Cold Spring Harbor Lab. May 18, 2022.
- MicroRNAs are now even more micro.* University of California Riverside. November 30, 2021.
- Studies and applications of Argonaute protein.* Cincinnati Children's Hospital Medical Center, Cincinnati, USA. November 6, 2019.
- Studies and applications of Argonaute protein.* The University of Tokyo, Japan. July 16, 2019.
- Structure and Mechanism of Human Argonaute Paralogs.* The RNA Society of Japan. Tokyo, Japan. July 17, 2019.
- Anatomy of RNAi effector complex and the application to a programmable RNA restriction enzyme.* Department of Biological Chemistry Seminar Series, Johns Hopkins University, Baltimore, USA. October 29, 2018.
- Anatomy of RNAi effector complex and the application to a programmable RNA restriction enzyme.* Seminars in Biochemistry, Indiana University School of Medicine. Indianapolis, USA. October 22, 2018.
- Anatomy of RNAi effector complex and the application to a programmable RNA restriction enzyme.* Graduate Program Seminar Series, Uniformed Services University of the Health Sciences. Bethesda, USA. September 27, 2018.
- Anatomy of RNAi effector complex and the application to a programmable RNA restriction enzyme.* Biochemistry and Molecular Biology Seminar Series, Wright State University. Dayton, USA. September 13, 2018.
- When does human Argonaute3 cleave RNAs? -Structural and functional studies of human Argonaute3.* RNA Society Meeting. Prague Czech. June 2, 2017.
- Structural and Functional Studies of the Largest and Smallest Argonaute proteins.* Institute of Molecular and Cellular Biosciences Seminar Series, The University of Tokyo. Tokyo, Japan. 2017.
- Structural and functional studies of Argonaute proteins.* Open seminar of PRESTO. Tokyo, Japan. January 20, 2017.
- Anatomy of RISC, Department of Biological Sciences Seminar Series.* The University of Tokyo. Tokyo Japan. May 20, 2016.
- Structural and Functional Insights into Mechanisms of Argonaute Proteins.* Cincinnati Children Hospital. Ohio, USA. May 13, 2016.
- Structural and Functional Insights into Mechanisms of Argonaute Proteins.* Small RNA Silencing, Keystone Symposia. Colorado, USA. January 26, 2016.
- Crystal structure of the eukaryotic RNA-induced silencing complex.* National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan. June 15, 2012.
- Crystal structure of the eukaryotic RNA-induced silencing complex.* The 22nd international CDB Meeting, RNA Sciences in Cell and Developmental Biology II, Kobe, Japan. June 13, 2012
- Structural basis for cleavage mechanism of budding yeast Dicer.* Department of Basic Medical Sciences, Institute of Medical Science, The University of Tokyo, Tokyo, Japan. June 8, 2012.
- Crystal structure of the eukaryotic RNA-induced silencing complex.* RNA Society Meeting 2012, Michigan, USA. May 13, 2012.
- Structural basis for translational fidelity ensured by transfer RNA lysidine synthetase.* RNA conference 2010, Seattle, USA. June 24, 2010

Physiological meanings of sequence specific and non-specific RNA binding proteins. Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan. June 14, 2010

Structural basis for cleavage mechanism of budding yeast Dicer. Department of Basic Medical Sciences, Institute of Medical Science, The University of Tokyo, Tokyo, Japan. June 11, 2010

Grants

Current

NIH/NIGMS, R01GM138997-01~04 Jul. 2020 – Jun. 2024 \$1,194,564 total
 Title: Structural and molecular basis for cityRNA (Cleavage-inducing tiny RNA)-directed RNA cleavage by AGO3
 Role: **PI**

NIH/NIGMS, R01GM138997-03S1 Jul. 2022 – Jun. 2024 \$199,982 total
 Title: Structural and molecular basis for cityRNA (Cleavage-inducing tiny RNA)-directed RNA cleavage by AGO3
 Role: **PI**

NIH/NIGMS. R01GM124320-06~09 Sep. 2022 – Aug. 2026 \$1,281,850 total
 Title: Target Specificity of human RNA-induced silencing complex
 Role: **PI**

NIH/NIGMS. R01GM124320-01~05 Sep. 2017 – Aug. 2022 \$1,493,560 total
 Title: Target Specificity of human RNA-induced silencing complex
 Role: **PI**

NIH/NIAID. R21AI178624-01~02 May. 2023 – Apr. 2025 \$424,797 total
 Title: Tiny RNAs as new potential biomarkers for gammaherpesvirus-driven neurological and central nervous system diseases
 Role: **PI**

Completed

Seed grant of the Center for RNA Biology, OSU Jun. 2017 – May. 2018 \$45,000 total
 Title: DNA-directed cleavage of viral genomic RNA
 Role: **Co-PI**

Seed grant of the Center for RNA Biology, OSU Jun. 2014 – May. 2015 \$35,000 total
 Title: The First Combined Structural and Functional Understanding of Chromatin-Modifying Argonaute Protein
 Role: **Co-PI**

PRESTO (JST), JPMJPR13L7 Oct. 2013 – Mar. 2017 \$540,690 total
 Title: Structure and Function of non-coding RNAs
 Role: **PI**

Human Frontier Science Program, grant.3fbabc7e Jun. 2009 – Dec. 2011
 Title: Structural basis for epigenetic readout of methyl-arginine mark and its impact on chromatin function.
 Role: **PI**

Patents

1. Methods and compositions regarding optimum target sequence of siRNAs for cleavage. 3/30/2023.
 Inventors: **Nakanishi K**
 Application number: 63/493,137 (United States) on 3/30/2023
 Application number: 63/493,144 (United States) on 3/30/2023

2. Methods and compositions regarding using tiny RNAs as biomarkers.
Inventors: **Nakanishi K**
Application number: 63/493,063 (United States) on 3/30/2023
3. Methods of using exonucleases to make tiny RNAs on Argonaute proteins.
Inventors: **Nakanishi K**
Application number: 63/400,886 (United States) on 8/25/2022
4. Methods and compositions related to catalytic activation of human Argonaute-3.
Inventors: **Nakanishi K** and Park MS
Application number: PCT/US2021/039897 on 6/30/2021
Application number: 18/011,799 (United States) on 12/20/2022
Application number: 21834439.8 (Europe) on 6/30/2021
5. METHODS AND COMPOSITIONS RELATED TO CATALYTIC ACTIVATION OF HUMAN ARGONAUTE3
Inventors: **Nakanishi K.**, and Park M.S
Application number: 63/110,405 on 11/6/2020
6. SYSTEMS AND METHODS FOR PURIFICATION OF DNA-INDUCED SLICING COMPLEXES (DISC).
Inventors: **Nakanishi K.**, Dayeh D.M., Kankia B., and Musier-Forsyth K.
Application number: 62/685,513 on 6/15/2018
7. SYSTEMS AND METHODS FOR DNA-GUIDED RNA CLEAVAGE
Inventors: **Nakanishi K.**, Dayeh D.M
Application number: 62/435,272 on 12/16/2016

SERVICE

Journal Referee Activity

Ad-hoc reviewer, Analytical Chemistry
 Ad-hoc reviewer, Cell
 Ad-hoc reviewer, Cellular and Molecular Life Sciences
 Ad-hoc reviewer, FEBS Letters
 Ad-hoc reviewer, Journal of Biological Chemistry
 Ad-hoc reviewer, Journal of Molecular Biology
 Ad-hoc reviewer, Molecular Cell
 Ad-hoc reviewer, Nature
 Ad-hoc reviewer, Nature Catalysis
 Ad-hoc reviewer, Nature Communications
 Ad-hoc reviewer, Nucleic Acids Research
 Ad-hoc reviewer, PLOS Genetics
 Ad-hoc reviewer, PLOS One
 Ad-hoc reviewer, Proceedings of the National Academy of Science
 Ad-hoc reviewer, RNA
 Ad-hoc reviewer, Scientific Reports
 Ad-hoc reviewer, WIREs RNA

Conference

2021: Co-Organizer of the Rustbelt RNA Meeting
 2020: Co-Vice Organizer of the Rustbelt RNA Meeting

University Service

2023: Center for RNA Fellowship Committee, Member

2023:	CBC Summer Oral Committee, Member
2022:	Center for RNA Fellowship Committee, Member
2020 – 2022:	Research Publicity Committee, Member
2020:	Junior Under Representative Minority Faculty Recruiting (2020)
2019 – 2022:	OSBP Admission Committee, Member
2019 - 2020:	Graduate Recruiting Committee, Member
2019:	Referee for the Center for RNA Biology Seed Grant Competition
2015 – Present:	CBC Graduate Admission Committee, Member
2015:	CBC Summer Oral Committee, Member
2015:	Referee for the Center for RNA Biology Seed Grant Competition
2014 – Present:	Advisors of the first-year graduate student
2013 – 2018:	CBC Safety Committee, Member
2013 – 2016:	OSBP Admission Committee, Member

TEACHING

Classes

Period	Course Number and Title	Enr.
Spring 2023	Biochem 6765 Advanced Physical Biochemistry	28
Autumn 2022	BIOCHEM 5613 Biochemistry and Molecular Biology I	47
Spring 2021	Biochem 6765 Advanced Physical Biochemistry	22
Spring 2021	Biochemistry Seminar	51
Autumn 2020	BIOCHEM 5613 Biochemistry and Molecular Biology I	40
Autumn 2020	Biochemistry Seminar	58
Spring 2020	BIOCHEM 5613 Biochemistry and Molecular Biology I	46
Autumn 2019	BIOCHEM 5613 Biochemistry and Molecular Biology I	32
Spring 2019	BIOCHEM 5613 Biochemistry and Molecular Biology I	37
Autumn 2018	BIOCHEM 5613 Biochemistry and Molecular Biology I	32
Spring 2018	BIOCHEM 5613 Biochemistry and Molecular Biology I	57
Spring 2017	BIOCHEM 5613 Biochemistry and Molecular Biology I	56
Autumn 2016	BIOCHEM 8990 X-ray crystallography	4
Spring 2016	BIOCHEM 5613 Biochemistry and Molecular Biology I	73
Autumn 2015	BIOCHEM 8990 X-ray crystallography	6
Autumn 2014	BIOCHEM 8990 X-ray crystallography	16
Autumn 2013	BIOCHEM 8990 Advanced Topics in Biochemistry	6

Mentoring Experience

Postdoctoral Fellows Advised:

Dr. Vishal Adhav (2023 – present)
 Dr. Uttam Sharma (2023 – present)
 Dr. Huaqun Zhang (2020 - present)
 Dr. Divyaa Bhagdikar (2020 -2022): Orna Therapeutics
 Dr. Meng Sun
 Dr. Ekram Waham
 Dr. Seema Nath
 Dr. Daniel Dayeh

Ph.D. Student Advised:

Daniel Dayeh (Graduation 2018): Scientist in Protein Biochemistry at Regeneron (2021-present), Postdoctoral Fellow in the Alexander Tarakhovskiy lab at The Rockefeller University (2019-2021), Pelotonia Graduate Student Fellowship 2016-2018, Center for RNA Biology Graduate Student Fellowship 2015-2016, RNA Society Meeting 2018 Travel Fellowship, First Prize poster Award at

RNA Rustbelt Meeting 2017, First Prize Poster at Center for RNA Biology/Cellular, Molecular biochemical Sciences Symposium 2017, Cold Spring Harbor Laboratory Travel Award 2016.

Mi Seul Park (Graduation 2019): K99/R00 NIH Pathway to Independence Award 2021, Postdoctoral Fellow in the Christopher Lima Lab at The Memorial Sloan-Kettering Cancer Center, Pelotonia Graduate Student Fellowship 2018-2020, RNA Society Meeting Travel Awards 2017&2019, Travel grant from Robin C. Burrell memorial Fund 2017&2019, Cold Spring Harbor Laboratory Travel Award 2018.

GeunYoung Sim (2018 – present): Pelotonia Graduate Student Fellowship 2020-2022, Center for RNA Biology Graduate Student Fellowship 2020-2021, Outstanding Oral Presentation Award at Rustbelt RNA Meeting 2020, Poster Prize at IGP Symposium 2021.

Andrew Savidge (2022 – present): T32 NIH Training Grant Fellowship 2022-2023, 1st place of IGP poster award 2023.

Undergraduate Student Research Mentor:

Alison Hager (2018 – 2019): Albany Medical College

Taylor Roger (2018)

Elaina Boyle (2017-2018): Graduate student in the Brenda Bass Lab at University of Utah

Audrey Kehling (2016-2017): Research Tech III in the Nakanishi Lab at The Ohio State University

Dechen Wangmo (2017)

Bradley Kruthoff (2015 – 2017): New York Institute of Technology College of Osteopathic Medicine

Viktor Gravenstein (2014)

Jackson Norris (2014)

Quince Guttman (2014)

Monica Mabilia (2013 - 2014)

Research Assistant:

Audrey Kehling (2017 – 2019, 2020 -present)

Jackson Secor (2021 – 2022): The Ohio State University, Tech

Nipun Malhotra (2021 - 2022): The Ohio State University, Tech

Christopher Brodtkin (2020)

Aaron Natarelli (2019)

James Brackbill (2013-2015)

Committee Member for PhD Student:

Andrew Savidge (Ohio State University Biochemistry Program)

Allison Marie Webb Chasser (Department of Molecular Genetics)

Anthony Rish (Ohio State University Biochemistry Program)

Brendan Harty (Department of Chemistry & Biochemistry)

Cameron Divoky (Ohio State University Biochemistry Program)

Danni Jin (Molecular, Cellular and Developmental Biology Graduate Program)

Debadrita Modak (Department of Chemistry & Biochemistry)

Diego Cuerda-Gil (Department of Molecular Genetics)

Elakkiya Tamilselvan (The Biophysics Graduate Program)

GeunYoung Sim (Molecular, Cellular and Developmental Biology Graduate Program)

Harsha Mandayam (Department of Chemistry & Biochemistry)

Hond-Duc Phan (Ohio State University Biochemistry Program)

Jonathan Gordon (Department of Chemistry & Biochemistry)

Marina Buyanova (Department of Chemistry & Biochemistry)

Maryam Baniasad (Department of Chemistry & Biochemistry)

Matias Montes (Molecular, Cellular and Developmental Biology Graduate Program)
Mi Seul Park (Department of Chemistry & Biochemistry)
Michelle Gray (Ohio State University Biochemistry Program)
Miranda Gardner (Ohio State University Biochemistry Program)
Moulisubhro Datta (Molecular, Cellular and Developmental Biology Graduate Program)
Nathan Howell (Ohio State University Biochemistry Program)
Ruiqi Wu (The Biophysics Graduate Program)
Rylan Watkins (Department of Chemistry & Biochemistry)
Shiqin Miao (Department of Chemistry & Biochemistry)
Vaishnavi Sidharthan (Department of Chemistry & Biochemistry)
Vibhuti Wadhwa (Department of Chemistry & Biochemistry)
Xiao Ma (Department of Chemistry & Biochemistry)

Committee Member for Master Student:

Jonathan Gordon (Master of Science)

Committee Member for Undergraduate Student:

Seth Lyon (The Ohio State University)