

# George P. Lisi

Department of Molecular Biology, Cell Biology & Biochemistry • Warren Alpert Medical School • Brown University  
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## EDUCATION:

<b>Dartmouth College</b> Ph.D., Chemistry (with D.E. Wilcox & E.V. Pletneva)	<b>Hanover, NH</b> 2014
<b>Fairfield University</b> B.Sc., Chemistry	<b>Fairfield, CT</b> 2009

## EMPLOYMENT:

<b>Assistant Professor, Warren Alpert Medical School, Brown University</b> (appointed 9/1/2018) <i>Department of Molecular Biology, Cell Biology &amp; Biochemistry</i>	<b>Providence, RI</b> 2018 - Present
<b>Postdoctoral Research Fellow, Yale University</b> <i>Department of Chemistry (with J. P. Loria)</i>	<b>New Haven, CT</b> 2014 - 2018

## PUBLICATIONS:

- See [ncbi.nlm.nih.gov/sites/myncbi/1f7yuRKsyj65T/bibliography/48613662/public/?sort=date&direction=descending](https://ncbi.nlm.nih.gov/sites/myncbi/1f7yuRKsyj65T/bibliography/48613662/public/?sort=date&direction=descending)
- See [www.researchgate.net/profile/George\\_Lisi](https://www.researchgate.net/profile/George_Lisi)

\* Denotes corresponding author(s) # Denotes equal contribution

- (48) Wang, J.\*; Maschietto, F.; Qiu, T.; Arantes, P.R.; Skeens, E.; Palermo, G.\*; **Lisi, G.P.\***; Batista, V.S.\* “Substrate-independent Activation Pathways of the CRISPR-Cas9 HNH Nuclease” *Manuscript under review*
- (47) Chen, E.; Widjaja, V.; Allen, B.; Das, P.; Bhandari, V.; Lolis, E.J.; Batista, V.S.; **Lisi, G.P.\*** “Mapping N- to C-terminal Allosteric Coupling through Disruption of the CD74 Activation Site in D-dopachrome Tautomerase” *Manuscript in revision*
- (46) Parkins, A.#; Chen, E.; Rangel, V.; Singh, M.; Xue, L.; **Lisi, G.P.**; Pantouris, G.\* “Ligand-induced Conformational Changes Enable Intersubunit Communication in D-dopachrome Tautomerase” *Biophysical Journal*. **2023**. *In press*.
- (45) Belato, H.B.; **Lisi, G.P.\*** “The Many (Inter)faces of Anti-CRISPRs: Modulation of CRISPR-Cas Structure and Dynamics by Mechanistically Diverse Inhibitors” *Biomolecules*. **2023**. *13*. 264-277  
 - Feature paper – Molecular Structure and Dynamics
- (44) Maschietto, F.; Qiu, T.; Wang, J.\*; Shi, Y.; Allen, B.; **Lisi, G.P.**; Lolis, E.; Batista, V.S.\* “Valproate Coenzyme-A Conjugate Blocks Opening of Receptor Binding Domain in the Spike Trimer of SARS-CoV-2 by an Allosteric Mechanism” *Computational and Structural Biotechnology Journal*. **2023**. *21*. 1066-1076
- (43) Skeens, E.; **Lisi, G.P.\*** “Analysis of Coordinated Chemical Shifts to Map Allosteric Regulatory Networks in Proteins” *Methods*. **2023**. *209*. 40-47.  
 - Thematic issue - New Methods in Biomolecular NMR Spectroscopy
- (42) Wang, J.\*; Arantes, P.R.; Ahsan, F.M.; Sinha, S.; Kyro, G.W.; Maschietto, F.; Allen, B.; Skeens, E.; **Lisi, G.P.\***; Batista, V.S.\*; Palermo, G.\* “Twisting and Swiveling Domain Motions in Cas9 to Recognize Target DNA Duplexes, Make Double-stranded Breaks, and Release Cleaved Duplexes” *Frontiers in Molecular Biosciences*. **2023**. DOI: 10.3389/fmolb.2022.1072733.
- (41) Fredericks, A.M.#; East, K.W.#; Shi, Y.#; Liu, J.; Maschietto, F.; Ayala, A.; Cioffi, W.G.; Cohen, M.; Fairbrother, W.G.; Lefort, C.T.; Nau, G.J.; Levy, M.M.; Wang, J.; Batista, V.S.; **Lisi, G.P.\***; Monaghan, S.F.\* “Identification and Mechanistic Basis of Non-ACE2 Blocking Neutralizing Antibodies from COVID-19 Patients with Deep RNA Sequencing and Molecular Dynamics Simulations” *Frontiers in Molecular Biosciences* **2022**. DOI: 10.3389/fmolb.2022.1080964.
- (40) Belato, H.B.; Norbrun, C.; Luo, J.; Pindi, C.; Sinha, S.; D’Ordine, A.M.; Jogl, G.; Palermo, G.\*; **Lisi, G.P.\*** “Disruption of Electrostatic Contacts in the HNH Nuclease from a Thermophilic Cas9 Rewires Allosteric Motions and Enhances High-temperature DNA Cleavage” *Journal of Chemical Physics*. **2022**. *157*. 225103-225113.  
 - Thematic collection - New Views of Allostery

Updated 1.1.2023

- (39) Wang, J.\*; Liu, J.; Gisriel, C.J.; Wu, S.; Maschietto, F.; Flesher, D.A.; Lolis, E.; **Lisi, G.P.**; Brudvig, G.W.; Xiong, Y.; Batista, V.S. "How to Correct Relative Voxel Scale Factors for Calculations of Vector-difference Fourier Maps in Cryo-EM" *Journal of Structural Biology* **2022**. 214. 107902-107915.
- (38) Nierzwicki, L.; East, K.W.; Binz, J.; Hsu, R.V.; Arantes, P.R.; Ahsan, M.; Skeens, E.; Pacesa, M.; Jinek, M.; **Lisi, G.P.\***; Palermo, G.\* "Principles of Target DNA Cleavage and the Role of Mg<sup>2+</sup> in the Catalysis of CRISPR-Cas9" *Nature Catalysis* **2022**. 5. 912-922.
- (37) Wang, J.\*; Shi, Y.; Reiss, K.; Maschietto, F.; Lolis, E.; Konigsberg, W.H.; **Lisi, G.P.**; Batista, V.S.\* "Structural Insights into Binding of Remdesivir Triphosphate within the Replication-transcription Complex of SARS-CoV-2" *Biochemistry* **2022**. 61. 1966-1973.
- (36) Wang, J.\*; Skeens, E.; Arantes, P.; Maschietto, F.; Allen, B.; **Lisi, G.P.\***; Palermo, G.\*; Batista, V.S.\* "Structural Basis for Reduced Dynamics of Three Engineered HNH Endonuclease Lys-to-Ala Mutants of the Cas9 Enzyme" *Biochemistry* **2022**. 61. 785-794.
- (35) **Lisi, G.P.\***; Rivalta, I.\*; Venditti, V.\* "Editorial: Structural and Dynamic Aspects of Protein Function and Allostery" *Frontiers in Molecular Biosciences* **2022**. DOI: 10.3389/fmolb.2022.876499.
- (34) Wang, J.\*; Shi, Y.; Reiss, K.; Allen, B.; Maschietto, F.; Lolis, E.; Konigsberg, W.H.; **Lisi, G.P.**; Batista, V.S.\* "Insights into the Binding of Single-stranded Viral RNA Template to the Replication-transcription Complex of SARS-CoV-2 for the Priming Reaction from Molecular Dynamics Simulations" *Biochemistry* **2021**. 61. 424-432.
- (33) Skeens, E.; Gadzuk-Shea, M.M.; Shah, D.; Bhandari, V.; Schweppe, D.K.; Berlow, R.B.\*; **Lisi, G.P.\*** "Redox-dependent Structure and Dynamics of Macrophage Migration Inhibitory Factor Reveal Sites of Latent Allostery" *Structure* **2022**. 30. 840-850.  
- Commentary in "Cytokine Aerobics: Oxidation Controls Cytokine Dynamics and Function" *Structure* **2022**
- (32) Skeens, E.#; Pantouris, G.#; Shah, D.; Ombrello, M.J.; Maluf, N.K.; Bhandari, V.; **Lisi, G.P.\***; Lolis, E.J.\* "A Cysteine Variant at an Allosteric Site in MIF Alters Protein Dynamics and Biological Function in Homo- and Heterotrimeric Assemblies" *Frontiers in Molecular Biosciences* **2022**. 9. DOI: 10.3389/fmolb.2022.783669.
- (31) Nierzwicki, L.#; East, K.W.#; Morzan, U.N.; Arantes, P.R.; Batista, V.S.; **Lisi, G.P.\***; Palermo, G.\* "Enhanced Specificity Mutations Perturb Allosteric Signaling in CRISPR-Cas9" *eLife* **2021**. 10. e73601.  
- Journal Cover Art
- (30) Belato, H.B.; D'Ordine, A.M.; Nierzwicki, L.; Jogl, G.; Palermo, G.\*; **Lisi, G.P.\*** "Structural and Dynamic Insights into the HNH Nuclease of Divergent Cas9 Species" *Journal of Structural Biology* **2021**. 214. 107814-107824.
- (29) Cui, J.Y.; **Lisi, G.P.\*** "Molecular Level Insights into the Structural and Dynamic Factors Driving Cytokine Function" *Frontiers in Molecular Biosciences* **2021**. 8. 10.3389/fmolb.2021.773252.  
- Thematic collection – Structural and Dynamic Aspects of Protein Function and Allostery
- (28) Parkins, A.; Skeens, E.; McCallum, C.M.; **Lisi, G.P.\***; Pantouris, G.\* "The N-terminus of MIF Regulates the Dynamic Profile of Residues Involved in CD74 Activation" *Biophysical Journal* **2021**. 120. 1-8.
- (27) Chen, E.; Reiss, K.; Shah, D.; Ramu, M.; Murphy, E.L.; Murphy, J.W.; Batista, V.S.; Bhandari, V.; Lolis, E.J.; **Lisi, G.P.\*** "A Structurally Preserved Allosteric Site in the MIF Superfamily Affects Enzymatic Activity and CD74 Activation in D-dopachrome Tautomerase" *Journal of Biological Chemistry* **2021**. 297. 101061-101073.
- (26) Wang, J.\*; Reiss, K.; Shi, Y.; Lolis, E.; **Lisi, G.P.**; Batista, V.S.\* "Inhibition Mechanism of Remdesivir on Reproduction of SARS-CoV-2 and Ebola Virus" *Biochemistry* **2021**. 60. 1869-1875.
- (25) East, K.W.; Delaglio, F.; **Lisi, G.P.\*** "A Simple Approach for Reconstruction of Non-uniformly Sampled Pseudo-3D NMR Data for Accurate Measurement of Spin Relaxation Parameters" *Journal of Biomolecular NMR* **2021**. 75. 213-219.
- (24) Skeens, E.#; East, K.W.#; **Lisi, G.P.\*** "1H, 13C 15N Backbone Resonance Assignment of the Recognition Subdomain 3 (Rec3) from *Streptococcus pyogenes* CRISPR-Cas9" *Biomolecular NMR Assignments* **2020**. 15. 25-28.
- (23) Murphy, J.W.; Rajasekaran, D.; Merkel, J.; Skeens, E.; Keeler, C.; Hodsdon, M.; **Lisi, G.P.**; Lolis, E.\* "High-throughput Screening of a Functional Human CXCL12-CXCR4 Signaling Axis in a Genetically Modified *S. cerevisiae*: Discovery of a Novel Up-regulator of CXCR4 Activity" *Frontiers in Molecular Biosciences* **2020**. 7. DOI: 10.3389/fmolb.2020.00164

Updated 1.1.2023

- (22) Pantouris, G.\*; Khurana, L.; Ma, A.; Skeens, E.; Reiss, K.; Batista, V.S.; **Lisi, G.P.\***; Lolis, E.J.\* "Regulation of MIF Activity by an Allosteric Site at the Central Solvent Channel" *Cell Chemical Biology* **2020**. 27. 740-750.
- (21) Cui, J.Y.; Zhang, F.; Nierzwicki, L.; Palermo, G.; Linhardt, R.J.; **Lisi, G.P.\*** "Mapping the Structural and Dynamic Determinants of pH-sensitive Heparin Binding to Granulocyte Macrophage-colony Stimulating Factor" *Biochemistry* **2020**. 59. 3541-3553.
- (20) East, K.W.; Newton, J.C.; Morzan, U.N.; Narkhede, Y.B.; Acharya, A.; Skeens, E.; Jogl, G.; Batista, V.S.; Palermo, G.\*; **Lisi, G.P.\*** "Allosteric Motions of the CRISPR-Cas9 HNH Nuclease Probed by NMR and Molecular Dynamics" *Journal of the American Chemical Society* **2020**. 142. 1348-1358.  
- Highlighted in "Allosteric Control of Enzyme Activity: From Ancient Origins to Recent Genome-editing Technologies" *Biochemistry* **2020**  
- Editor's selection for *JACS* **2021** virtual issue dedicated to outstanding early career investigators
- (19) East, K.W.; Skeens, E.; Cui, J.Y.; Belato, H.B.; Mitchell, B.; Hsu, R.; Batista, V.S.; Palermo, G.; **Lisi, G.P.\*** "NMR and Computational Methods for Molecular Resolution of Allosteric Pathways in Enzyme Complexes" *Biophysical Reviews*. **2020**. 12. 155-174.
- (18) East, K.W.; Leith, A.; Ragavendran, A.; Delaglio, F.; **Lisi, G.P.\*** "NMRdock: Lightweight and Modular NMR Processing" *bioRxiv*. **2019**. DOI: 10.1101/679688. (\*\*preprint only, not peer reviewed)
- (17) Belato, H.B.#; East, K.W.#; **Lisi, G.P.\*** "<sup>1</sup>H, <sup>13</sup>C, <sup>15</sup>N Backbone and Side Chain Resonance Assignments of the HNH Nuclease from *Streptococcus pyogenes* CRISPR-Cas9" *Biomolecular NMR Assignments*. **2019**. 13. 367-370.
- (16) Negre, C.F.A.\*; Morzan, U.N.\*; Hendrickson, H.P.; Pal, R.; **Lisi, G.P.**; Loria, J.P.; Rivalta, I.\*; Batista, V.S.\* "Eigenvector Centrality for Characterization of Protein Allosteric Pathways" *Proceedings of the National Academy of Sciences, USA*. **2018**. 115. E12201-E12208.
- (15) **Lisi, G.P.**; Currier, A.A.; Loria, J.P.\* "Glutamine Hydrolysis by Imidazole Glycerol Phosphate Synthase Displays Temperature-Dependent Allosteric Activation" *Frontiers in Molecular Biosciences*. **2018**. 5. DOI: 10.3389/fmolb.2018.0004
- (14) **Lisi, G.P.\***; Loria, J.P.\* "Allostery in Enzyme Catalysis" *Current Opinion in Structural Biology*. **2017**. 47. 123-130.  
- Thematic issue – Catalysis and Regulation
- (13) **Lisi, G.P.**; East, K.W.; Batista, V.S.; Loria, J.P.\* "Altering the Allosteric Pathway in IGPS Suppresses Millisecond Motions and Catalytic Activity" *Proceedings of the National Academy of Sciences, USA*. **2017**. 114. E3414-E3423.
- (12) Rivalta, I.\*; **Lisi, G.P.**; Snoeberger, N.-S.; Manley, G.A.; Loria, J.P.\*; Batista, V.S.\* "Allosteric Communication Disrupted by a Small Molecule Binding to the Imidazole Glycerol Phosphate Synthase Protein-Protein Interface" *Biochemistry*. **2016**. 55. 6484-6494.
- (11) **Lisi, G.P.**; Hughes, R.P.; Wilcox, D.E.\* "Coordination Contributions to Protein Stability in Metal-Substituted Carbonic Anhydrase" *Journal of Biological Inorganic Chemistry*. **2016**. 21. 659-667.
- (10) **Lisi, G.P.**; Manley, G.A.; Hendrickson, H.; Rivalta, I.; Batista, V.S.; Loria, J.P.\* "Dissecting Dynamic Allosteric Pathways using Chemically Related Small Molecule Activators" *Structure*. **2016**. 24. 1155-1166.  
- Feature article
- (9) **Lisi, G.P.\***; Loria, J.P.\* "Solution NMR Spectroscopy for the Study of Enzyme Allostery" *Chemical Reviews*. **2016**. 116. 6323-6369.  
- Thematic issue – Protein Ensembles and Allostery
- (8) **Lisi, G.P.**; Loria, J.P.\* "Using NMR Spectroscopy to Elucidate the Role of Molecular Motions in Enzyme Function" *Progress in NMR Spectroscopy*. **2016**. 92-93. 1-17.
- (7) Amacher, J.F.; Zhong, F.; **Lisi, G.P.**; Zhu, M.Q.; Alden, S.L.; Hoke, K.H.; Madden, D.R.; Pletneva, E.V.\* "A Compact Structure of Cytochrome *c* Trapped in a Lysine-Ligated State: Loop Refolding and Functional Implications of a Conformational Switch" *Journal of the American Chemical Society*. **2015**. 137. 8435-8449.
- (6) **Lisi, G.P.**; Png, C.Y.M.; Wilcox, D.E.\* "Thermodynamic Contributions to the Stability of the Insulin Hexamer" *Biochemistry*. **2014**. 53. 3576-3584.

Updated 1.1.2023

- (5) Zhong, F.; **Lisi, G.P.**; Collins, D.P.; Dawson, J.H.; Pletneva, E.V.\* "Redox-Dependent Stability, Protonation, and Reactivity of Cysteine-Bound Heme Proteins" *Proceedings of the National Academy of Sciences, USA*. **2014**. 111. E306-E315.
- (4) Harper-Leatherman, A.S.\*; Iftikhar, M.; Ndoi, A.; Scappaticci, S.J.; **Lisi, G.P.**; Buzard, K.L.; Garvey, E.M. "Simplified Procedure for Encapsulating Cytochrome c in Silica Aerogel Nanoarchitectures While Retaining Gas-Phase Bioactivity" *Langmuir*. **2012**. 28. 14756-14765.
- (3) Miecznikowski, J.R.\*; Lo, W.; Lynn, M.A.; Jain, S.; Keilich, L.C.; Kloczko, N.F.; O'Loughlin, B.E.; DiMarzio, A.P.; Foley, K.M.; **Lisi, G.P.**; Kwiecien, D.J.; Butrick, E.E.; Powers, E.; Al-Abbasee, R. "Syntheses, Characterization, Density Functional Theory Calculations and Activity of Tridentate SNS Zinc Pincer Complexes Based on Bis-Imidazole or Bis-Triazole Precursors" *Inorganica Chimica Acta*. **2012**. 387. 25-36.
- (2) Miecznikowski, J.R.\*; Lo, W.; Lynn, M.A.; O'Loughlin, B.E.; DiMarzio, A.P.; Martinez, A.M.; Lampe, L.; Foley, K.M.; Keilich, L.C.; **Lisi, G.P.**; Kwiecien, D.J.; Pires, C.M.; Kelly, W.J.; Kloczko, N.F.; Morio, K.N. "Syntheses, Characterization, Density Functional Theory Calculations and Activity of Tridentate SNS Zinc Pincer Complexes" *Inorganica Chimica Acta*. **2011**. 376. 515-524.
- (1) Miecznikowski, J.R.\*; Caradonna, J.P.; Foley, K.M.; Kwiecien, D.J.; **Lisi, G.P.**; Martinez, A.M. "Introduction to Homogenous Catalysis with Ruthenium-Catalyzed Oxidation of Alcohols: An Experiment for Undergraduate Advanced Inorganic Chemistry Students" *Journal of Chemical Education*. **2011**. 88. 657-661.

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#### **INVITED LECTURES & CONFERENCE LECTURES:**

- (20) Brown University, Dept. of Chemistry, Providence, RI (March **2023**)
- (19) Dartmouth College, Dept. of Chemistry, Hanover, NH (Dec **2022**)
- (18) The Pennsylvania State University, Dept. of Chemistry, State College, PA (Nov **2022**)
- (17) 29<sup>th</sup> International Conference on Magnetic Resonance in Biological Systems, Boston, MA (Aug **2022**)
- (16) Providence VA Medical Center, Vascular Research Laboratory, Providence, RI (Feb **2022**)
- (15) National Institute of Standards and Technology and University of Maryland, Institute for Bioscience and Biotechnology Research, Rockville, MD (Nov **2021**)
- (14) American Chemical Society National Meeting, Physical Chemistry Section, Atlanta, GA (Aug **2021**)
- (13) International Council on Magnetic Resonance in Biological Systems (ICMRBS) Webinar Series (Aug **2021**)
- (12) University of the Pacific, Dept. of Chemistry, Stockton, CA (Mar **2021**)
- (11) Fairfield University, Dept. of Chemistry & Biochemistry, Fairfield, CT (Feb **2021**)
- (10) Providence VA Medical Center, Vascular Research Laboratory, Providence, RI (Dec **2020**)
- (9) Brown University, Dept. of Molecular Biology, Cell Biology, & Biochemistry, Providence, RI (Apr **2020**)
- (8) 61<sup>st</sup> Experimental NMR Conference (ENC), Baltimore, MD (Mar **2020**)
- (7) University of California, Riverside, Dept. of Bioengineering, Riverside, CA (Feb **2020**)
- (6) Brown University, Dept. of Molecular Pharmacology, Physiology, & Biotechnology, Providence, RI (Feb **2019**)
- (5) Brown University, Dept. of Chemistry, Providence, RI (Nov **2018**)
- (4) 59<sup>th</sup> Experimental NMR Conference (ENC), Orlando, FL (Mar **2018**)
- (3) University of Connecticut Health Center, Dept. of Molecular Biology & Biophysics, Farmington, CT (May **2017**)
- (2) Fairfield University, Dept. of Chemistry & Biochemistry, Fairfield, CT (Nov **2015**)
- (1) Northeastern Regional Meeting of the American Chemical Society, New Haven, CT (Nov **2013**)

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#### **PROFESSIONAL ACTIVITIES:**

- Editorial Board, Molecular Biophysics specialty section, *Frontiers in Molecular Biosciences* 2022 - Present
- Brown University Structural Biology Core Facilities Executive Committee 2022 - Present
- Deputy Editorial Board, *Journal of Structural Biology* 2022 - Present
- NIH BBM Study Section (*ad hoc*) 2022
- NSF SBIR/STTR Review Panel 2021
- New England Science Symposium Judge, Harvard Medical School 2021
- Guest Editor – *Frontiers in Molecular Biosciences* 2020 – 2021  
Invited collection on "Structural and Dynamic Aspects of Protein Function and Allostery"
- Faculty Trainer, Graduate Program in Molecular Biology, Cell Biology & Biochemistry (MCB) 2018 – Present
- Faculty Trainer, Graduate Program in Therapeutic Sciences (TSGP) 2018 – Present
- Faculty Trainer, Graduate Program in Pathobiology 2018 – Present
- Manuscript Reviewer (*ad hoc*) - *ACS Medicinal Chemistry Letters*, *ACS Physical Chemistry Au*, *BioEssays*, *Biochemical Society Transactions*, *Bioorganic & Medicinal Chemistry*, *Biophysical Journal*, *Clinical and Translational Medicine*, *FEBS Letters*, *Frontiers in Molecular Biosciences*, *Journal of the American Chemical Society*, *Journal of Biomolecular NMR*, *Journal of Immunotherapy of Cancer*, *Journal of Molecular Biology*, *Journal of Structural Biology*, *Methods in Enzymology*, *Nature Chemical Biology*, *Nature Communications*, *Nucleic Acids Research*, *RNA Biology*, *Science Advances*

**PROFESSIONAL SOCIETIES:**

- Protein Society 2022 – Present
  - Biophysical Society 2021 – Present
  - Sigma Xi Scientific Research Society 2009 – Present
  - American Chemical Society 2009 – Present
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**TEACHING:**

BIOL 0280 (Introductory Biochemistry) 2019 - Present

Instructor Score: 4.47/5.00 Course Score: 3.91/5.00 (2022, 378 students, Course Leader)

Instructor Score: 4.34/5.00 Course Score: 4.11/5.00 (2021, 442 students)

BIOL 1270/2270 (Advanced Biochemistry)

Instructor Score: 4.62/5.00 Course Score: 4.62/5.00 (2022, 18 students, Course Leader)

Instructor Score: 4.50/5.00 Course Score: 4.50/5.00 (2021, 25 students)

Instructor Score: 4.95/5.00 Course Score: 4.80/5.00 (2020, 23 students, Course Leader)

Instructor Score: 4.69/5.00 Course Score: 4.56/5.00 (2019, 31 students)

**GUEST LECTURES:**

BIOL 0100 (Living Biology) 2019 – Present

BIOL 1100 (Cell Physiology & Biophysics)

BIOL 2010B (Introduction to Data Science in Molecular Biology)

BIOL 2030 (Foundations for Advanced Study in Life Sciences)

RCR (Responsible Conduct of Research for Graduate Students)

**EXTERNAL TEACHING:**

CHEM 041 (Biochemistry) – Dartmouth College, Hanover, NH 2020 – 2021

HLST 3900 (The Corona Pandemic, a Class and a Conversation) – Fairfield University, Fairfield, CT 2020

**WORKSHOP TEACHING:**

“Building a Resilient Community” – Self-advocacy and Assertiveness for Scientists – Providence, RI 2022

“Entering Research at Yale” Workshop Series – New Haven, CT 2015 – 2018

NMRBox, National Center for Biomolecular NMR Data Processing & Analysis – Farmington CT 2017

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**HONORS:**

- CRISPR QC Innovator Award 2022
  - NSF CAREER Award 2021
  - *Journal of the American Chemical Society* issue highlighting outstanding early career investigators 2021
  - Richard B. Salomon Faculty Research Award 2021
  - Arthur Dunham Holmes 1906 Memorial Graduate Fellowship, Dartmouth College 2013
  - GAANN Graduate Fellowship, U.S. Dept. of Education 2010 - 2011
  - Outstanding Senior Chemistry Major, Fairfield University 2009
  - Distinguished Work in the Natural Sciences, College of Arts & Sciences, Fairfield University 2009
  - Presidential Academic Scholarship, Fairfield University 2006 – 2009
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**RESEARCH GRANTS:**

**Current**

R01 GM144451

National Institute of General Medical Sciences, NIH

*Unraveling the Allosteric Mechanism of Macrophage Migration Inhibitory Factor with Molecular Resolution*

09/01/22 – 08/31/27

PI: Lisi Co-I: Batista Co-I: Schweppe

Amount: \$1,578,915

DBI 2233775

National Science Foundation

*Helium Recovery Equipment: Securing Rhode Island and Southern New England NMR Structural Biology Infrastructure*

09/15/22 – 08/31/25

PI: Fawzi Co-PI: Lisi Co-PI: Naik

Amount: \$322,300

R01 HL163005

National Heart, Lung, and Blood Institute, NIH

*Combining Targeted Demethylation with Noncoding RNA-mediated mRNA Stabilization as a Strategy for Therapeutic Arteriogenesis in the Aged*

05/01/22 – 04/30/27

PI: Morrison Co-I: Lisi Co-I: Sellke Co-I: Fedulov

Amount: \$2,000,000 (total) \$499,935 (Lisi)

MCB 2143760

National Science Foundation

*CAREER: Molecular Resolution of Long-range Allostery in CRISPR-Cas9*

01/01/22 – 12/31/26

PI: Lisi

Amount: \$1,400,000

R01 GM136815

National Institute of General Medical Sciences, NIH

*Studies of Allostery between Multi-domain Proteins and Nucleic Acid Complexes*

02/01/21 – 11/30/24

PI: Batista Co-I: Lisi Co-I: Palermo

Amount: \$1,292,688 (total) \$430,896 (Lisi)

### **Completed**

Project Lead, COBRE Center for the Computational Biology of Human Disease, Phase II

National Institute of General Medical Sciences, NIH – P20 GM109035

*Mapping Long-range Allosteric Pathways in CRISPR-Cas9*

09/01/21 – 08/31/26

PI: Rand Project PI: Lisi

Amount: \$239,100

Richard B. Salomon Faculty Research Award

Office of the Vice President for Research, Brown University

*Mapping the Molecular Determinants of Long-range Allostery and Specificity in CRISPR-Cas9*

03/01/21 – 06/30/22

PI: Lisi

Amount: \$15,000

Project Lead, COBRE Center for the Computational Biology of Human Disease, Phase I

National Institute of General Medical Sciences, NIH – P20 GM109035

*Mapping Long-range Allosteric Pathways in CRISPR-Cas9*

09/01/19 – 02/28/21

PI: Rand Project PI: Lisi

Amount: \$437,396

Seed Award

Office of the Vice President for Research, Brown University

*Redox-mediated Control of Protein Structure as a Potential Therapy for Inflammation*

01/01/19 – 06/30/20

PI: Lisi

Amount: \$30,000

Medical Research Grant

Rhode Island Foundation

*Redox Control of Immunoregulatory Factors as Targeted Therapies for Inflammation*

04/01/19 – 03/31/20

PI: Lisi

Amount: \$25,000

Pilot Award, COBRE Center for the Computational Biology of Human Disease

Updated 1.1.2023

National Institute of General Medical Sciences, NIH – P20 GM109035  
*Developing Experimental and Computational Synergy in Studies of Enzyme Allostery*  
01/01/19 – 12/31/19  
PI: Rand Project PI: Lisi  
Amount: \$30,000

Pilot Award, Cardiopulmonary Vascular Biology COBRE  
National Institute of General Medical Sciences, NIH – P20 GM103652  
*Redox Control of Macrophage Migration Inhibitory Factor Structure and Function*  
PI: Harrington, Rounds Project PI: Lisi  
Amount: \$50,000 (Award Declined)

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#### **Ph.D. THESIS COMMITTEES:**

Vinnie Widjaja – MCB (George Lisi, supervisor)	2022 - Present
Madeline Clark – MCB (George Lisi, supervisor)	2022 - Present
Rachel Carley – Therapeutic Sciences (Alan Morrison, supervisor)	2022 - Present
Raphael Britt – MCB (Gerwald Jogl & John Sedivy, supervisors) - <i>committee chair</i>	2022 - Present
Noah Wake – Therapeutic Sciences (Nicolas Fawzi, supervisor)	2022 - Present
Erin Skeens – MCB (George Lisi, supervisor)	2021 - Present
Alexandra D'Ordine – MCB (Gerwald Jogl & John Sedivy, supervisors) - <i>ad hoc</i>	2021 - 2022
Anna Bock – Biotechnology (Nicolas Fawzi, supervisor)	2021 - Present
Jose Mercado-Ortiz – MPP (Nicolas Fawzi, supervisor) – <i>committee chair</i>	2021 - Present
Gerardo Reyes-Chavez – MCB (Gary Wessel, supervisor)	2020 - Present
Selahaddin Gumus – Chemistry (Sarah Delaney, supervisor)	2020 - 2022
Jennifer Cui – MCB (George Lisi, supervisor)	2020 - Present
Helen Belato – MPP (George Lisi, supervisor)	2019 - Present
Emily Chen – MCB (George Lisi, supervisor)	2019 - 2022
Anastasia Murthy – MCB (Nicolas Fawzi, supervisor)	2019 - 2020
Veronica Ryan – Neuroscience (Nicolas Fawzi, supervisor)	2019 - 2020

#### **Sc.M. THESIS COMMITTEES:**

Amber Chevannes – Biotechnology (Nicolas Fawzi, supervisor)	2019
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#### **UNDERGRADUATE HONORS THESES SUPERVISED:**

Aditya Rao	2022
Jonathan Scalabrini	2022
Nadia Goldberg	2021

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#### **STUDENTS & STAFF:**

<b>Postdoctoral</b>	<b>Years</b>	<b>Subsequent Position</b>
Emily Chen (Ph.D. Brown)	2022 - 2023	Scientist, New England Biolabs
Kyle East (Ph.D. Yale)	2019 - 2021	Scientist, biomolecular NMR, Eli Lilly & Co.
<b>Research Associates</b>	<b>Years</b>	<b>Subsequent Position</b>
Camila Molina Roca	Su. 2022	Ph.D. Student, Brown University MCB
Vinnie Widjaja	Su. 2021	Ph.D. Student, Brown University MCB
Jennifer Cui	2019	Ph.D. Student, Brown University MCB
Erin Skeens	2018 - 2020	Ph.D. Student, Brown University MCB
<b>Graduate Students</b>	<b>Years</b>	<b>Subsequent Position</b>
Madeline Clark (NIH T32)	2022 - Present	
Vinnie Widjaja (NIH IMSD)	2022 - Present	
Erin Skeens	2021 - Present	
Jennifer Cui	2020 - Present	
Helen Belato (NSF GRFP)	2019 - Present	
Emily Chen (NIH T32)	Ph.D. 2022	Postdoctoral Associate, Brown University (G. Lisi)
<b>Undergraduates</b>	<b>Years</b>	<b>Subsequent Position</b>
Mariana Floody	2022 - Present	

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Yannie Lam	2022 - Present	
Jeet Patel	2022 - Present	
Adela Herce	2021 – 2022	Research Associate, Brigham & Women's Hospital
Aditya Rao	2021 – 2022	Research Associate, Texas Heart Institute
Jon Scalabrini	2021 – 2022	NIH Post-baccalaureate Program, NIDDK/NHLBI
J.P. Moïse	2020 - 2021	West Virginia University Medical School
Nadia Goldberg	2019 - 2021	Columbia University College of Physicians & Surgeons
Ji Yun (Estelle) Han	2019 (Summer)	Warren Alpert Medical School of Brown University
Allison Gallagher	2019 (Summer)	Virginia Commonwealth University School of Pharmacy
Samuel Croes	2019 - 2021	Life sciences consultant, Acel Health
<b>Rotation Students</b>	<b>Years</b>	<b>Graduate Program</b>
Renjith Viswanathan	W 2023	Therapeutic Sciences
Alexa Knight	F 2022	Molecular Biology, Cell Biology & Biochemistry
Camila Molina Roca	F 2022	Molecular Biology, Cell Biology & Biochemistry
Carmelissa Norbrun	F 2021	Therapeutic Sciences
Rachel Carley	W 2021	Therapeutic Sciences
Mai Huynh	W 2021	Pathobiology
Yanitza Rodriguez	S 2020	Molecular Biology, Cell Biology & Biochemistry
Jennifer Dumouchel	S 2020	Therapeutic Sciences
Gerardo Reyes-Chavez	W 2020	Molecular Biology, Cell Biology & Biochemistry
Maureen Dowell	W 2019	Molecular Biology, Cell Biology & Biochemistry
Layra Cintron-Rivera	F 2018	Pathobiology
Carlos Toro	F 2018	Therapeutic Sciences

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