

George P. Lisi

Department of Molecular Biology, Cell Biology & Biochemistry • Warren Alpert Medical School • Brown University
 george_lisi@brown.edu • <https://vivo.brown.edu/display/glisi> • lisilabnmr.com

EDUCATION:

Dartmouth College

Ph.D., Chemistry (*Mentors: D.E. Wilcox & E.V. Pletneva*)

Hanover, NH
2014

Fairfield University

B.Sc., Chemistry

Fairfield, CT
2009

EMPLOYMENT:

Brown University & Warren Alpert Medical School

Department of Molecular Biology, Cell Biology & Biochemistry

- Associate Professor (*with tenure*)
- Thomas J. & Alice M. Tisch Assistant Professor
- Assistant Professor (*appointed 9/1/2018*)

Providence, RI

2025 – Present
2023 – 2024
2018 – 2024

Department of Chemistry

- Affiliate Faculty Member

2023 – Present

Brown University RNA Center

- Faculty Investigator

2023 – Present

Yale University

Department of Chemistry

- Postdoctoral Fellow (*Mentor: J. P. Loria*)

New Haven, CT

2014 – 2018

PUBLICATIONS:

- See ncbi.nlm.nih.gov/sites/myncbi/1f7yuRKsyj65T/bibliography/48613662/public/?sort=date&direction=descending
- See www.researchgate.net/profile/George_Lisi

* Denotes corresponding author(s) # Denotes equal contribution Lisi lab trainee

- (65) Manjula, R.[#]; Ghanem, L.[#]; Skeens, E.; Bai, L.; **Lisi, G.P.**; Lolis, E.J.*; Bennett, A.M.* “Molecular Characterization of the α 4- α 5 Loop in MKP5 Phosphatase Identifies Critical Determinants of Catalysis” *Manuscript in preparation*
- (64) Cui, J.Y.; Varghese, I.; Bock, A.S.; Floody, M.; Zhang, F.; Rubenstein, B.M.; **Lisi, G.P.*** “Leveraging Solvent Exposure of a Histidine Triad to Modulate Structure, Dynamics, and Ligand Binding in GM-CSF” *Manuscript in preparation*
- (63) Wu, Z.; Widjaja, V.; Skeens, E.; van der Velde, J.J.H.; Zahran, M.H.M.S.; Zhang, J.; Cool, R.H.; Poelarends, G.J.; **Lisi, G.P.**; Dekker, F.J.* “Discovery of Furan-2-carboxylic Acid Derivatives as Novel D-dopachrome Tautomerase (D-DT) and Macrophage Migration Inhibitory Factor-1 (MIF-1) Dual Inhibitors” *Manuscript in preparation*
- (62) Mantsounga, C.S.; Pierce, J.; Clark, M. E.; Sharma, S.; Farinha, A.; Caballero, O.; Neverson, J.; Lee, C.; Amelotte, E.; Butler, C.; Fedulov, A.; Sellke, F.; Choudhary, G.; **Lisi, G.P.**; Morrison, A.R.* “Aging Impairs Inflammatory Arteriogenesis by Disruption of Proangiogenic VEGF-A mRNA Stability Conferred by Dicer1 Dose-sensitive miR-29” *Manuscript in preparation*
- (61) Handelsmann, C.R. Skeens, E.; **Lisi, G.P.**; Buck, M.J.* “Comparative Analysis of CRISPR-Cas9 and Cas12a Nuclease Targeting within Varying Nucleosome Contexts” *Manuscript under review*
- (60) Pindi, C.; Vieyra, F.; **Lisi, G.P.**; Morzan, U.N.*; Palermo, G.* “Rules for Expanding the PAM Compatibility in CRISPR-Cas9 from the VQR, VRER, and EQR Variants” *Manuscript under review*
- (59) Ahsan, M.; Saha, A.; Ramos, D.; Strohkendl, I.; Skeens, E.; **Lisi, G.P.**; Taylor, D.W.; Palermo, G.* “A Cryptic Binding Pocket Regulates the Metal-dependent Activity of Cas9” *bioRxiv. 2025. DOI 10.1101/2025.08.25.672025 (Manuscript under review)*
- (58) Widjaja, V.; D’Orazio, S.; Das, P.; Rajendran, D.T.; Takeda, X.; Shi, Y.; Varghese, I.; Lam, Y.; Wang, J.; Batista, V.S.; Bhandari, V.; **Lisi, G.P.*** “Allosteric Modulation of MIF-2 Structure, Catalysis, and Biological Signaling via Cysteine Residues and a Small Molecule, Ebselen” *bioRxiv. 2025. DOI: 10.1101/2025.05.15.654344 (Revised manuscript under review)*

- (57) Knight, A.L.; Luo, J.; **Lisi, G.P.*** “Assessing Temperature-dependent DNA Cleavage of CRISPR-Cas9” *Bio-protocol*. **2025**. DOI: 10.21769/BioProtoc.5463
- (56) Skeens, E.#; Maschietto, F.#; Manjula, R.; Shillingford, S.; Murphy, J.W.; Lolis, E.J.; Batista, V.S.; Bennett, A.M.*; **Lisi, G.P.*** “Dynamic and Structural Insights into Allosteric Regulation on MKP5/DUSP10, a Dual-specificity Phosphatase” *Nature Communications*. **2025**. 16. DOI: 10.1038/s41467-025-62159-w
- (55) Knight, A.L.; **Lisi, G.P.*** “Spy-ing on Nucleic Acids: Atomic Resolution of the *S. pyogenes* CRISPR-Cas9 Surveillance State” *Structure*. **2025**. 33. 636-638
- Structure Spotlight
- (54) Clark, M.E.; Farinha, A.; Morrison, A.R.*; **Lisi, G.P.*** “Structural, Biological, and Biomedical Implications of mRNA Interactions with the Master Regulator HuR” *NAR Molecular Medicine*. **2025**. DOI: 10.1093/narmme/ugaf002
- (53) Belato, H.B.#; Knight, A.L.#; D’Ordine, A.M.; Pindi, C.; Fan, Z.; Luo, J.; Palermo, G.; Jogl, G.; **Lisi, G.P.*** “Structural and Dynamic Impacts of Single-atom Disruptions to Guide RNA Interactions within the Recognition Lobe of *Geobacillus stearothermophilus* Cas9” *eLife*. **2024**. DOI: 10.7554/eLife.99275
- (52) Sajko, S.; Skeens, E.; Shinagl, A.; Ferhat, M.; Mirkina, I.; Mayer, J.; Rossmueller, G.; Thiele, M.*; **Lisi, G.P.*** “Redox-dependent Plasticity of oxMIF Facilitates its Interaction with CD74 and Therapeutic Antibodies” *Redox Biology*. **2024**. 75. 103264-103278
- (51) Monteiro da Silva, G.; Cui, J.Y.; Dalgarno, D.C.; **Lisi, G.P.**; Rubenstein, B.M.* “High-throughput Prediction of Protein Conformational Distributions with Subsampled AlphaFold2” *Nature Communications*. **2024**. 15. DOI: 10.1038/s41467-024-46715-9
- Press: Blavatnik Family Foundation – New Technique for Predicting Protein Dynamics May Prove Big Breakthrough for Drug Discovery
- (50) Skeens, E.#; Sinha, S.#; Ahsan, M.; D’Ordine, A.M.; Jogl, G.; Palermo, G.*; **Lisi, G.P.*** “High Fidelity, Hyper Accurate, and Evolved Mutants Rewire Atomic Level Communication in CRISPR-Cas9” *Science Advances*. **2024**. 10. ead11045-1056
- (49) 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” *Biophysical Journal*. **2023**. 122. 4635-4644
- (48) Knight, A.L.#; Widjaja, V.#; **Lisi, G.P.*** “Temperature as a Modulator of Allosteric Crosstalk in Mesophilic and Thermophilic Enzymes” *Frontiers in Molecular Biosciences*. **2023**. DOI: 10.3389/fmolb.2023.1281062
- Thematic issue – Allosteric Functions and Inhibitions: Structural Insights
- (47) Chen, E.#; Widjaja, V.#; Kyro, G.; Allen, B.; Das, P.; Prahaladan, V.M.; Bhandari, V.; Lolis, E.J.; Batista, V.S.*; **Lisi, G.P.*** “Mapping N- to C-terminal Allosteric Coupling through Disruption of a Putative CD74 Activation Site in D-dopachrome Tautomerase” *Journal of Biological Chemistry*. **2023**. 299. 104729-104740
- (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**. 122. 1268-1276
- (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*
- (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 Mg²⁺ 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.; Gadzik-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
- (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.
 - Recognized as one of the most cited JACS articles of 2020-2021
 - Editor's selection for JACS 2021 virtual issue dedicated to outstanding early career investigators
 - Highlighted in "Allosteric Control of Enzyme Activity: From Ancient Origins to Recent Genome-editing Technologies" *Biochemistry* **2020**
- (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.* "¹H, ¹³C, ¹⁵N 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" *PNAS*. **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" *PNAS*. **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.
- (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" *PNAS*. **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.

INVITED LECTURES:

- (32) International CRISPR Congress, Yerevan, Armenia (Oct **2025**)
- (31) Wichita State University, Dept. of Chemistry & Biochemistry, Wichita, KS (Oct **2024**)
- (30) University of Louisville, Dept. of Biochemistry & Molecular Genetics, Louisville, KY (Oct **2024**)
- (29) 30th International Conference on Magnetic Resonance in Biological Systems, Seoul, South Korea (Aug **2024**)
- (28) 8th International Conference on Nucleic Acids & CRISPR, London, UK (July **2024**)
- (27) Iowa State University, Dept. of Chemistry, Ames, IA (Apr **2024**)
- (26) 65th Experimental NMR Conference (ENC), Pacific Grove, CA (Apr **2024**)
- (25) Yale University, Dept. of Chemistry, New Haven, CT (Mar **2024**)
- (24) MIF Virtual Seminar Series, Ludwig Maximilian University of Munich, Div. of Vascular Biology, Munich, Germany (Feb **2024**)
- (23) University of Michigan, Center for RNA Biomedicine, Ann Arbor, MI (Nov **2023**)
- (22) Rhode Island College, Dept. of Biology, Providence, RI (Nov **2023**)
- (21) Gordon Research Conference on Computational Aspects of Biomolecular NMR, West Dover, VT (June **2023**)
- (20) Brown University, Dept. of Chemistry, Providence, RI (Mar **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) 29th 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 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) 61st 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) 59th 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:

- NIH MSFB Study Section (*ad hoc*) 2025
- External grant reviewer, Swiss National Science Foundation (SNSF) 2025
- NSF Review Panel - Molecular Biophysics 2025
- Guest Editor – *Journal of Structural Biology* 2024 – 2025
 Special collection on “Disorder, Dynamics, and Regulation of Proteins and Nucleic Acids”
- External grant reviewer, Grantova Agentura Ceske Republiky (Czech Science Foundation) 2024
- Mentor, NSF Chemistry Early Career Investigator Workshop 2024
- NIH MSFB Study Section (*ad hoc*) 2024
- Associate Editor, Molecular Biophysics, *Frontiers in Molecular Biosciences* 2023 – Present
- External grant reviewer, Deutsche Forschungsgemeinschaft (German Research Foundation) 2023
- NIH MSFB Study Section (*ad hoc*) 2023
- Editorial Board, Molecular Biophysics, *Frontiers in Molecular Biosciences* 2022 – Present
- Deputy Editorial Board, *Journal of Structural Biology* 2022 – Present
- NIH BBM Study Section (*ad hoc*) 2022
- NSF Review Panel - SBIR/STTR 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”
- Manuscript Reviewer 2018 – Present
ACS Applied Biomaterials, *ACS Catalysis*, *ACS Medicinal Chemistry Letters*, *ACS Physical Chemistry Au*, *Biochemistry*, *Biochemical Society Transactions*, *BioEssays*, *Bioorganic & Medicinal Chemistry*, *Biophysical Journal*, *Biotechnology Advances*, *Cell Genomics*, *Cellular Physiology & Biochemistry*, *Clinical & Translational Medicine*, *Current Opinion in Structural Biology*, *FEBS Letters*, *Frontiers in Cardiovascular Medicine*, *Frontiers in Molecular Biosciences*, *Intl. Journal of Biomacromolecules*, *Journal of the American Chemical Society*, *Journal of Biomolecular NMR*, *Journal of Biological Chemistry*, *Journal of Chemical Information & Modeling*, *Journal of Chemical Physics*, *Journal of Immunotherapy of Cancer*, *Journal of Molecular Biology*, *Journal of Physical Chemistry*, *Journal of Structural Biology*, *Methods in Enzymology*, *Nature Chemical Biology*, *Nature Communications*, *Nucleic Acids Research*, *RNA Biology*, *Science Advances*, *STAR Protocols*, *Structure*

BROWN UNIVERSITY ACTIVITIES:

- Co-Director of Graduate Studies (MCBGP) 2025 – Present
- MCB Graduate Program Executive Committee 2023 – Present
- Proteomics Core Facility Advisory Board 2023 – Present
- Structural Biology Core Facilities Executive Committee 2022 – Present
- MCB Graduate Program Admission Committee 2019 – Present
 - Chair, 2024, 2025
 - Vice Chair, 2023
- 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

PROFESSIONAL SOCIETIES:

- Protein Society
 - Biophysical Society
 - American Chemical Society
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TEACHING:

BIOL 0280 (Introductory Biochemistry) 2019 – Present
 Instructor Score: 4.64/5.00 Course Score: 4.40/5.00 (2025, 347 students)
 Instructor Score: 4.43/5.00 Course Score: 3.75/5.00 (2023, 290 students)
 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: 4.44/5.00 Course Score: 4.00/5.00 (2023, 12 students)

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)

BIOL 1950/1960 (Directed Research & Independent Studies for Undergraduates)

BIOL 2030 (Foundations for Advanced Study in Life Sciences)
 Instructor Score: 4.67/5.00 Course Score: 4.67/5.00 (2024, 9 students)

GUEST LECTURES:

BIOL 0100 (Living Biology) 2019 – Present
 BIOL 1100 (Cell Physiology & Biophysics)
 BIOL 2010B (Introduction to Data Science in Molecular Biology)
 RCR (Responsible Conduct of Research for Graduate Students)

EXTERNAL TEACHING:

CHEM 161 (Structure and Dynamics of Biomolecules) – Dartmouth College, Hanover, NH 2025
 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, 2025
 "Entering Research at Yale" Workshop Series – New Haven, CT 2015 – 2018
 NMRBox, National Center for Biomolecular NMR Data Processing & Analysis – Farmington CT 2017

HONORS:

- Innovator Award, CRISPR-QC 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

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, G. Co-I: Batista, V.

Amount: \$1,578,915

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, A. Co-I: Lisi, G. Co-I: Sellke, F. Co-I: Fedulov, A.

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, G.

Amount: \$1,400,000

Completed

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, N. Co-PI: Lisi, G. Co-PI: Naik, M.

Amount: \$322,300

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, V. Co-I: Lisi, G. Co-I: Palermo, G.

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

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, D. Project PI: Lisi, G.

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, G.

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, D. Project PI: Lisi, G.

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, G.

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, G.

Amount: \$25,000

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

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, D. Project PI: Lisi, G.

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, E. Co-PI: Rounds, S. Project PI: Lisi, G.
Amount: \$50,000 (Award Declined)

Ph.D. THESES SUPERVISED:

Briana Mercado – MCB (BS University of Maryland)	2025 - Present
Isabel (Iz) Varghese – TSGP (BS Colby College, co-advised w/ Brenda Rubenstein)	2024 - Present
Alexa Knight – MCB (BS University of Washington, co-advised w/ Gerwald Jogl)	2023 - Present
Camila Molina Roca – MCB (BS Bay Path University)	2023 - Present
Vinnie Widjaja – MCB (BS San Diego State University)	2022 - Present
Madeline Clark – MCB (BS Christopher Newport University)	2022 - Present
Erin Skeens – MCB (BS Tufts University)	2021 - 2025
Jennifer Cui – MCB (BS Queen's University, MS McMaster University, Canada)	2020 - 2024
Helen Belato – TSGP (BS University of Connecticut)	2019 - 2023
Emily Chen – MCB (BS Brandeis University)	2019 - 2022

Ph.D. THESIS COMMITTEES:

Dominique Walker – TSGP (Christina Cuomo, supervisor) - <i>committee chair</i>	2024 - Present
Hanna Kodama – MCB (Gerwald Jogl & Martin Taylor, supervisors) - <i>committee chair</i>	2024 - Present
Renjith Viswanathan – TSGP (Nicolas Fawzi, supervisor) - <i>committee chair</i>	2024 - 2025
Ryan Puterbaugh – TSGP (Nicolas Fawzi, supervisor) - <i>committee chair</i>	2024 - Present
Morgan Woodman – MCB (Kate Grive, supervisor)	2023 - Present
Gustavo Ramirez – Chemistry (Brenda Rubenstein, supervisor)	2023 - Present
Miguel Martinez Guzman – Chemistry (Megan Kizer, supervisor)	2023 - Present
Raphael Britt – MCB (Gerwald Jogl & John Sedivy, supervisors) - <i>committee chair</i>	2022 - Present
Noah Wake – TSGP (Nicolas Fawzi, supervisor)	2022 - Present
Anna Bock – Biotechnology (Nicolas Fawzi, supervisor)	2021 - 2025
Jose Mercado-Ortiz – TSGP (Nicolas Fawzi, supervisor) - <i>committee chair</i>	2021 - 2024
Rachel Carley – TSGP (Alan Morrison, supervisor)	2021 - 2024
Alexandra D'Ordine – MCB (Gerwald Jogl & John Sedivy, supervisors)	2021 - 2022
Gerardo Reyes-Chavez – MCB (Gary Wessel, supervisor)	2020 - 2025
Selahaddin Gumus – Chemistry (Sarah Delaney, supervisor)	2020 - 2022
Anastasia Murthy – MCB (Nicolas Fawzi, supervisor)	2019 - 2020
Veronica Ryan – Neuroscience (Nicolas Fawzi, supervisor)	2019 - 2020

EXTERNAL Ph.D. READER:

Christopher Handelsmann – State University of New York at Buffalo (Michael Buck, supervisor)	2025
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Sc.M. THESIS COMMITTEES:

Victoria Johnson – Biotechnology (Nicolas Fawzi, supervisor)	2025
Amber Chevannes – Biotechnology (Nicolas Fawzi, supervisor)	2019

UNDERGRADUATE HONORS THESES SUPERVISED:

Mariana Floody	2024
Yannie Lam	2023
Aditya Rao	2022
Jonathan Scalabrini	2022
Nadia Goldberg	2021

TRAINEES:

<u>Postdoctoral</u>	<u>Years</u>	<u>Current Position</u>
Anna Bock	2025 – Present	
Manish Chaubey	2024 – Present	
Helen Belato	2024	Postdoctoral Fellow, Brown University (M. Kizer)
Emily Chen	2022 – 2023	Scientist, New England Biolabs
Kyle East	2019 – 2021	Scientist, biomolecular NMR, Eli Lilly & Co.
<u>Research Associates</u>	<u>Years</u>	<u>Current Position</u>
Camila Molina	2022 (Summer)	Ph.D. Student, Brown University MCB
Vinnie Widjaja	2021 (Summer)	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	
<u>Graduate Students</u>	<u>Years</u>	<u>Current Position</u>	
Briana Mercado	2025 – Present		
Isabel (Iz) Varghese	2024 – Present		
Alexa Knight	2023 – Present		
Camila Molina	2023 – Present		
Madeline Clark	2022 – Present		
Vinnie Widjaja	2022 – Present		
Erin Skeens	Ph.D. 2025		
Jennifer Cui	Ph.D. 2024		
Helen Belato	Ph.D. 2023	Postdoctoral Fellow, Brown University (M. Kizer)	
Emily Chen	Ph.D. 2022	Scientist, New England Biolabs	
<u>Undergraduates</u>	<u>Years</u>	<u>Current Position</u>	
Olivia Duarte	2025 – Present		
Anika Weiling	2025 – Present		
Charlotte Dresser	2025 – Present		
Anna Steffen	2024 – 2025	Analyst, Clearview Healthcare Partners	
Salman Aji	2024		
Sirena D’Orazio	2023 – Present		
Mariana Floody	2022 – 2024	Research Associate, Yale University	
Yannie Lam	2022 – 2023	Ph.D. Program, biochemistry, Stanford University	
Jeet Patel	2022 – 2023	M.D./Ph.D. Program, University of Florida	
Adela Herce	2021 – 2022	Research Associate, Brigham & Women’s Hospital	
Aditya Rao	2021 – 2022	Research Associate, Texas Heart Institute	
Jon Scalabrini	2021 – 2022	M.D./Ph.D. Program, Columbia University	
J.P. Moïse	2020 – 2021	West Virginia University Medical School	
Nadia Goldberg	2019 – 2021	Columbia University Vagelos College of Physicians & Surgeons	
Ji Yun (Estelle) Han	2019	Warren Alpert Medical School of Brown University	
Samuel Croes	2019 – 2021	Life sciences consultant, Acsel Health	
<u>Lab Rotation Students</u>	<u>Years</u>	<u>Ph.D. Graduate Program</u>	
Shira Strongin	2025	Therapeutic Sciences	
Hanna Kodama	2024	Molecular Biology, Cell Biology & Biochemistry	
Renjith Viswanathan	2023	Therapeutic Sciences	
Carmelissa Norbrun	2021	Therapeutic Sciences	
Mai Huynh	2021	Pathobiology	
Yanitza Rodriguez	2020	Molecular Biology, Cell Biology & Biochemistry	
Jennifer Dumouchel	2020	Therapeutic Sciences	
Gerardo Reyes-Chavez	2020	Molecular Biology, Cell Biology & Biochemistry	
Maureen Dowell	2019	Molecular Biology, Cell Biology & Biochemistry	
Layra Cintron-Rivera	2018	Pathobiology	
Carlos Toro	2018	Therapeutic Sciences	
<u>Visiting Students</u>	<u>Years</u>	<u>Home Institution</u>	<u>Subsequent Position</u>
Anvit Divekar	2025 – Present	Georgia Tech, GA	
Allison Gallagher	2019	Washington College, MD	Virginia Commonwealth University School of Pharmac
