

George P. Lisi

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EDUCATION:

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

EMPLOYMENT:

Brown University & Warren Alpert Medical School <i>Department of Molecular Biology, Cell Biology & Biochemistry</i> - Associate Professor (<i>tenured</i>) - Thomas J. & Alice M. Tisch Assistant Professor - Assistant Professor (<i>appointed 9/1/2018</i>)	Providence, RI 2025 - Present 2023 - 2024 2018 - 2024
<i>Department of Chemistry</i> - Affiliate Faculty Member	2023 - Present
<i>Giuliani RNA Center at Brown University</i> - Faculty Investigator	2023 - Present
Yale University <i>Department of Chemistry</i> - Postdoctoral Fellow (<i>Mentor: J. P. Loria</i>)	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](#)

- (68) [Knight, A.L.](#)[#], [Belato, H.B.](#)[#], [Dresser, C.S.](#); Pindi, C.; Arantes, P.R.; [Mercado, B.J.](#); [Lasekan, P.](#); Luo, J.; Jogl, G.*; Palermo, G.*; **Lisi, G.P.*** "Orthosteric and Allosteric Effects of Anti-CRISPR II-C1 on GeoCas9 from Integrated Structural Biophysics" *Manuscript in preparation*
- (67) 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*
- (66) 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 under review*
- (65) [Cui, J.Y.](#)[#]; [Varghese, I.](#)[#]; [Bock, A.S.](#); [Floody, M.](#); Zhang, F.; Rubenstein, B.M.; **Lisi, G.P.*** "Exploring a Histidine Triad as a Modulator of Structure, Molecular Motion, and Ligand Binding in GM-CSF" *Manuscript under review*
- (64) Handelmann, C.R. [Skeens, E.](#); **Lisi, G.P.**; Buck, M.J.* "Evaluating High-fidelity CRISPR-Cas Nucleases on Chromatinized DNA using a Quantitative Framework" *Manuscript in revision*
- (63) [Molina, C.E.](#); [Knight, A.L.](#); **Lisi, G.P.*** "Comparative Thermodynamic and Kinetic Properties Governing the Nucleic Acid Interactions of CRISPR-Cas9 and Cas12a" *Revised manuscript under review*
- (62) Wu, Z.; [Widjaja, V.](#); [Skeens, E.](#); van der Velde, J.J.H.; Zahran, M.; 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" *Journal of Medicinal Chemistry*. **2026**. *In press*
- (61) **Lisi, G.P.*** "Disorder, Dynamics, and Regulation of Proteins and Nucleic Acids" *Journal of Structural Biology*. **2026**. DOI:10.1016/j.jsb.2026.108285
- (60) 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

- (59) Vieyra, F.H.[#]; Pindi, C.[#]; **Lisi, G.P.**; Morzan, U.N.*; Palermo, G.* “Design Rules for Expanding PAM Compatibility in CRISPR-Cas9 from the VQR, VRER, and EQR Variants” *Journal of Physical Chemistry B*. **2025**. 129. 11949-11958
- (58) Widjaja, V.; D’Orazio, S.; Das, P.; Rajendran, D.T.; Takada, X.; Shi, Y.; Varghese, I.; Lam, Y.; DaSilva, N.; Wang, J.; Batista, V.S.; Bhandari, V.; **Lisi, G.P.*** “Atomistic Modulation of MIF-2 Structure, Catalysis, and Biological Signaling via Cysteine Residues and a Small Molecule, Ebselen” *Protein Science*. **2025**. 34. e70344-e70359
- (57) Knight, A.L.; Luo, J.; **Lisi, G.P.*** “Assessing Temperature-dependent DNA Cleavage of CRISPR-Cas9” *Bio-protocols*. **2025**. 15. e5463-e5474
- (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. 7011-7024
- (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**. 13. RP99275-RP99296
- (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. 2464-2476
- 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.; 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
- (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.

- (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:

- (33) CRISPR Medicine Summit, Boston, MA (Oct **2026**)
- (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

Grant & Peer Review

- External grant reviewer, Pennsylvania Dept. of Health 2026
 - NSF BIO Review Panel 2026
 - NIH MSFB Study Section (*ad hoc*) 2026
 - External grant reviewer, Swiss National Science Foundation (SNSF) 2025
 - NSF BIO Review Panel 2025
 - External grant reviewer, Grantova Agentura Ceske Republiky (Czech Science Foundation) 2024
 - NIH MSFB Study Section (*ad hoc*) 2024
 - External grant reviewer, Deutsche Forschungsgemeinschaft (German Research Foundation) 2023
 - NIH MSFB Study Section (*ad hoc*) 2023
 - NIH BBM Study Section (*ad hoc*) 2022
 - NSF SBIR/STTR Review Panel 2021
 - Manuscript Reviewer 2018 - Present
- ACS Applied Biomaterials, ACS Catalysis, ACS Medicinal Chemistry Letters, ACS Physical Chemistry Au, Biochemistry, Biochemical Pharmacology, 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, iScience, 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, Redox Biology, RNA Biology, Science Advances, STAR Protocols, Structure*

Editorial

- Associate Editor, Structural Biology, *Frontiers in Molecular Biosciences* 2025 - Present
- Guest Editor - *Journal of Structural Biology* 2024 - 2025
Special collection on "Disorder, Dynamics, and Regulation of Proteins and Nucleic Acids"
- Associate Editor, Molecular Biophysics, *Frontiers in Molecular Biosciences* 2023 - 2025
- Editorial Board, *Frontiers in Molecular Biosciences* 2022 - Present
- Deputy Editorial Board, *Journal of Structural Biology* 2022 - Present
- Guest Editor - *Frontiers in Molecular Biosciences* 2020 - 2021
Invited collection on "Structural and Dynamic Aspects of Protein Function and Allostery"

Scientific Community

- Mentor, NSF Chemistry Early Career (CAREER) Investigator Workshop 2024
- New England Science Symposium Judge, Harvard Medical School 2021

Brown University

- Director of Graduate Studies (MCBGP) 2025 - Present
- MCB Graduate Program Executive Committee 2023 - 2025
- *ex officio*, 2025 - Present
- Proteomics Core Facility Advisory Board 2023 - Present
- Structural Biology Core Facilities Executive Committee 2022 - Present
- MCB Graduate Program Admission Committee 2019 - 2025
- *ex officio*, 2026 - 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)

Instructor Score: /5.00 Course Score: /5.00 (2026, 450 students)
Instructor Score: 4.64/5.00 Course Score: 4.40/5.00 (2025, 337 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 2010B (Introduction to Data Science in Molecular Biology) 2023, 2024
RCR (Responsible Conduct of Research for Graduate Students) 2020, 2024, 2025
BIOL 1100 (Cell Physiology & Biophysics) 2019 - 20, 2022 - 23, 2025
BIOL 0100 (Living Biology) 2019

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
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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, 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:

Stephany Pang - MCB (Karthi Chellapa, supervisor)	2025 - Present
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 - 2025
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 Handelmann - State University of New York at Buffalo (Michael Buck, supervisor)	2025
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Sc.M. THESIS COMMITTEES:

Savannah Trychanh - Biotechnology (Arthur Salomon, supervisor)	2025
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:**Postdoctoral**

	<u>Years</u>
Anna Bock	2025 - Present
Manish Chaubey	2024 - 2026
Helen Belato	2024
Emily Chen	2022 - 2023
Kyle East	2019 - 2021

Current Position

Postdoctoral Fellow, Brown University (M. Kizer)
 Production Scientist, New England Biolabs
 Senior Advisor, biomolecular NMR, Eli Lilly & Co.

Research Associates

	<u>Years</u>
Camila Molina	2022 (Summer)
Vinnie Widjaja	2021 (Summer)
Jennifer Cui	2019
Erin Skeens	2018 - 2020

Current Position

Ph.D. Student, Brown University MCB
 Ph.D. Student, Brown University MCB
 Ph.D. Student, Brown University MCB
 Ph.D. Student, Brown University MCB

Graduate Students

	<u>Years</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
Emily Chen	Ph.D. 2022

Current Position

Postdoctoral Fellow, Brown University (M. Kizer)
 Production Scientist, New England Biolabs

Undergraduates

	<u>Years</u>
Olivia Duarte	2025 - Present
Anika Weiling	2025 - Present
Charlotte Dresser	2025 - Present
Anna Steffen	2024 - 2025
Salman Aji	2024
Sirena D'Orazio	2023 - Present
Mariana Floody	2022 - 2024
Yannie Lam	2022 - 2023
Jeet Patel	2022 - 2023
Adela Herce	2021 - 2022
Aditya Rao	2021 - 2022
Jon Scalabrini	2021 - 2022
J.P. Moise	2020 - 2021
Nadia Goldberg	2019 - 2021
Ji Yun (Estelle) Han	2019
Samuel Croes	2019 - 2021

Current Position

Analyst, Clearview Healthcare Partners

Lab Rotation Students

	<u>Years</u>
Max Root	2025
Praise Lasekan	2025
Shira Strongin	2025
Hanna Kodama	2024
Renjith Viswanathan	2023
Carmelissa Norbrun	2021

Ph.D. Graduate Program

Molecular Biology, Cell Biology & Biochemistry
 Molecular Biology, Cell Biology & Biochemistry
 Therapeutic Sciences
 Molecular Biology, Cell Biology & Biochemistry
 Therapeutic Sciences
 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 Pharmacy
