

George P. Lisi

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

| | |
|---|------------------------------|
| Dartmouth College Ph.D., Chemistry (with D.E. Wilcox & E.V. Pletneva) | 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> - Thomas J. & Alice M. Tisch Assistant Professor - Assistant Professor (appointed 9/1/2018) | Providence, RI 2023 – Present 2018 – Present |
| <i>Department of Chemistry</i> - Affiliate Faculty Member | 2023 – Present |
| <i>Brown University RNA Center</i> - Faculty Investigator | 2023 – Present |
| Yale University <i>Department of Chemistry</i> - Postdoctoral Research Fellow (with 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

- (54) Skeens, E.[#]; Maschietto, F.[#]; Manjula, R.; Shillingford, S.; 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” *Manuscript under review*
- (53) Belato, H.B.[#]; Knight, A.L.[#]; D’Ordine, A.M.; Fan, Z.; Luo, J.; Jogl, G.; **Lisi, G.P.*** “Atomistic Tuning of the GeoCas9 Recognition Lobe Modulates Allosteric Motions and Guide RNA Interactions” *Manuscript under review*
- (52) Sajko, S.; Skeens, E.; Shinagl, A.; Ferhat, M.; Mirkina, I.; Mayer, I.; Rossmueller, G.; Thiele, M.*; **Lisi, G.P.*** “Redox-dependent Plasticity of oxMIF Facilitates its Interaction with CD74 and Therapeutic Antibodies” *Manuscript in revision*
- (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
- (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. DOI: 10.1126/sciadv.adl1045
- (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.; Prahaldan, 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.

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- (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” *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

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- (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.
- (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.

INVITED LECTURES & CONFERENCE LECTURES:

- (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, organized by Ludwig Maximilian University of Munich, Division 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**)

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- (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:

- Guest Editor – *Journal of Structural Biology* 2024 – Present
Special collection on “Disorder, Dynamics, and Regulation of Proteins and Nucleic Acids”
- Mentor, NSF Chemistry Early Career Investigator Workshop 2024
- NIH MFSB Study Section (*ad hoc*) 2024
- Associate Editor, Molecular Biophysics, *Frontiers in Molecular Biosciences* 2023 – Present
- Grant reviewer, Deutsche Forschungsgemeinschaft (German Research Foundation) 2023
- NIH MFSB 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 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”
- Manuscript Reviewer 2018 – Present
ACS Applied Biomaterials, 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 Cardiovascular Medicine, 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 Physical Chemistry, Journal of Structural Biology, Methods in Enzymology, Nature Chemical Biology, Nature Communications, Nucleic Acids Research, RNA Biology, Science Advances

BROWN UNIVERSITY ACTIVITIES:

- 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
- 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

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- Sigma Xi Scientific Research Society
- American Chemical Society

TEACHING:

BIOL 0280 (Introductory Biochemistry)

2019 – Present

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 2030 (Foundations for Advanced Study in Life Sciences)

Instructor Score: ___/5.00 Course Score: ___/5.00 (2024, 10 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 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

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. Co-I: Schweppe, D.

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)

Updated 6.1.2024

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

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)

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, 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

Updated 6.1.2024

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. THESIS COMMITTEES:

| | |
|--|----------------|
| Kenneth Berard – Chemistry (Brenda Rubenstein, supervisor) | 2024 - Present |
| Isabel (Iz) Varghese – Therapeutic Sciences (Brenda Rubenstein & George Lisi, supervisors) | 2024 - Present |
| Morgan Woodman – MCB (Kate Grive, supervisor) | 2023 - Present |
| Alexa Knight – MCB (George Lisi & Gerwald Jogl, supervisors) | 2023 - Present |
| Camila Molina Roca – MCB (George Lisi, supervisor) | 2023 - Present |
| Gustavo Ramirez – Chemistry (Brenda Rubenstein, supervisor) | 2023 - Present |
| Miguel Martinez Guzman – Chemistry (Megan Kizer, supervisor) | 2023 - Present |
| Vinnie Widjaja – MCB (George Lisi, supervisor) | 2022 - Present |
| Madeline Clark – MCB (George Lisi, 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 |
| Anna Bock – Biotechnology (Nicolas Fawzi, supervisor) | 2021 - Present |
| Jose Mercado-Ortiz – MPP (Nicolas Fawzi, supervisor) – <i>committee chair</i> | 2021 - Present |
| Rachel Carley – Therapeutic Sciences (Alan Morrison, supervisor) | 2021 - 2024 |
| Alexandra D'Ordine – MCB (Gerwald Jogl & John Sedivy, supervisors) | 2021 - 2022 |
| Gerardo Reyes-Chavez – MCB (Gary Wessel, supervisor) | 2020 - Present |
| Jennifer Cui – MCB (George Lisi, supervisor) | 2020 - Present |
| Selahaddin Gumus – Chemistry (Sarah Delaney, supervisor) | 2020 - 2022 |
| Helen Belato – MPP (George Lisi, supervisor) | 2019 - 2023 |
| 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 |
|---|------|

UNDERGRADUATE HONORS THESES SUPERVISED:

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

STUDENTS & STAFF:

| <i>Postdoctoral</i> | <i>Years</i> | <i>Subsequent Position</i> |
|-----------------------------------|---------------------|--|
| Manish Chaubey | 2024 – Present | |
| Helen Belato | 2024 | |
| Emily Chen | 2022 – 2023 | Scientist, New England Biolabs |
| Kyle East | 2019 – 2021 | Scientist, biomolecular NMR, Eli Lilly & Co. |
| <i>Research Associates</i> | <i>Years</i> | <i>Subsequent Position</i> |
| Camila Molina Roca | 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 |
| <i>Graduate Students</i> | <i>Years</i> | <i>Subsequent Position</i> |

Updated 6.1.2024

| | | |
|---------------------------------|---------------------|--|
| Isabel (Iz) Varghese | 2024 – Present | |
| Alexa Knight | 2023 – Present | |
| Camila Molina | 2023 – Present | |
| Madeline Clark | 2022 – Present | |
| Vinnie Widjaja | 2022 – Present | |
| Erin Skeens | 2021 – Present | |
| Jennifer Cui | 2020 – Present | |
| Helen Belato | Ph.D. 2023 | Postdoctoral Fellow, Brown University (G. Lisi) |
| Emily Chen | Ph.D. 2022 | Postdoctoral Fellow, Brown University (G. Lisi) |
| <i>Undergraduates</i> | <i>Years</i> | <i>Subsequent Position</i> |
| Sirena D’Orazio | 2024 – Present | |
| Salman Aji | 2024 | |
| Mariana Floody | 2022 – 2024 | Research Associate, Yale University |
| Yannie Lam | 2022 – 2023 | Ph.D. Program, Biochemistry, Stanford University |
| Jeet Patel | 2022 – 2023 | Research Associate, 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 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, Acsel Health |
| <i>Rotation Students</i> | <i>Years</i> | <i>Graduate Program</i> |
| Hanna Kodama | S 2024 | Molecular Biology, Cell Biology & Biochemistry |
| Briana Mercado | W 2024 | Molecular Biology, Cell Biology & Biochemistry |
| Renjith Viswanathan | W 2023 | Therapeutic Sciences |
| Carmelissa Norbrun | F 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 |
