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George P. Lisi

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EDUCATION:

Dartmouth College — **Hanover, NH**
Ph.D., Chemistry (*Advisors: D.E. Wilcox & E.V. Pletneva*) — 2014

Fairfield University — **Fairfield, CT**
B.Sc., Chemistry — 2009

EMPLOYMENT:

Brown University & Warren Alpert Medical School — **Providence, RI**
Department of Molecular Biology, Cell Biology & Biochemistry
- Associate Professor (*with tenure*) — 2025 – Present
- Thomas J. & Alice M. Tisch Assistant Professor — 2023 – 2024
- Assistant Professor (*appointed 9/1/2018*) — 2018 – 2024

Department of Chemistry
- Affiliate Faculty Member — 2023 – Present

Brown University RNA Center
- Faculty Investigator — 2023 – Present

Yale University — **New Haven, CT**
Department of Chemistry
- Postdoctoral Fellow *(Advisor: J. P. Loria)* — 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

(64) Cui, J.Y.; Floody, M.; Varghese, I.; Rubenstein, B.M.; **Lisi, G.P.*** "Leveraging Solvent Exposure of a Histidine Triad to Modulate Structure, Multi-timescale Dynamics, and Ligand Binding in GM-CSF" *Manuscript in preparation*

(63) Pindi, C.; Vieyra, F.; **Lisi, G.P.**; Morzan, U.*; Palermo, G.* "Role of Allostery in the Expanded DNA Recognition of Cas9" *Manuscript in preparation*

(62) 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*

(61) Manjula, R.; Ghanem, L.; Skeens, E.; Bai, L.; **Lisi, G.P.**; Bennett, A.M.*; Lolis, E.J.* "Molecular Characterization of the Loop between the Allosteric Site and Enzymatic Site of MKP5" *Manuscript in preparation*

(60) Mantsounga, C.S.; Pierce, J.; Clark, M. E.; Caballero, O.; Farinha, A.; Sharma, S.; Neverson, J.; Lee, C.; Amelotte, E.; Butler, C.; Sellke, F.; Fedulov, A.; 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*

(59) Knight, A.L.; Luo, J.; **Lisi, G.P.*** "Assessing Temperature-dependent DNA Cleavage of a Thermophilic CRISPR-Cas9" *Manuscript under review*

(58) Ahsan, M.; Saha, A.; Strohkendl, I.; Skeens, E.; **Lisi, G.P.**; Taylor, D.W.; Palermo, G.* "Intrinsic Modulation of CRISPR-Cas9 Conformational and Catalytic Mechanism by Divalent Metal Ions" *Manuscript under review*

(57) Widjaja, V.; D'Orazio, S.; Das, P.; Takeda, X.; Rajendran, D.T.; 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 (*Manuscript under review*)

(56) 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" *Nature Communications.* **2025**. *In press*

(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.*** "Strucrural 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.* eadl1045-1056

(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 Mg^{2+} 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.*** "^{1}H, ^{13}C ^{15}N 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.*** "^{1}H,^{13}C,^{15}N Backbone and Side Chain Resonance Assignments of the HNH Nuclease from *Streptococcus pyogenes* CRISPR-Cas9" *Biomolecular NMR Assignments*. **2019**. *13*. 367-370.

(16) Negre, C.F.A.*; Morzan, U.N.*; Hendrickson, H.P.; Pal, R.; **Lisi, G.P.**; Loria, J.P.; Rivalta, I.*; Batista, V.S.* "Eigenvector Centrality for Characterization of Protein Allosteric Pathways" *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**)

PROFESSIONAL ACTIVITIES:

- 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 (*# of manuscripts reviewed)* 2018 – Present

ACS Applied Biomaterials
ACS Catalysis
ACS Medicinal Chemistry Letters
ACS Physical Chemistry Au
Biochemistry (2)
Biochemical Society Transactions
BioEssays
Bioorganic & Medicinal Chemistry
Biophysical Journal (2)
Cell Genomics
Cellular Physiology & Biochemistry
Clinical and Translational Medicine
Current Opinion in Structural Biology
FEBS Letters
Frontiers in Cardiovascular Medicine
Frontiers in Molecular Biosciences (4)
Intl. Journal of Biomacromolecules
Journal of the American Chemical Society (2)
Journal of Biomolecular NMR (3)
Journal of Biological Chemistry (2)
Journal of Chemical Information & Modeling (2)
Journal of Chemical Physics
Journal of Immunotherapy of Cancer
Journal of Molecular Biology (2)
Journal of Physical Chemistry (2)
Journal of Structural Biology (5)
Methods in Enzymology
Nature Chemical Biology (2)
Nature Communications (3)
Nucleic Acids Research (5)
RNA Biology
Science Advances (2)
STAR Protocols
Structure

BROWN UNIVERSITY ACTIVITIES:

- Co-Director of Graduate Studies (MCBGP) 2025 – Present
- Division of Research NSF CAREER Mock Review Panel 2025
- 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

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

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 – *No Cost Extension*
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
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:

Dominique Walker – TSGP (Christina Cuomo, supervisor) - *committee chair*	2024 - Present
Hanna Kodama – MCB (Gerwald Jogl & Martin Taylor, supervisors) - *committee chair*	2024 - Present
Renjith Viswanathan – TSGP (Nicolas Fawzi, supervisor) - *committee chair*	2024 - Present
Ryan Puterbaugh – TSGP (Nicolas Fawzi, supervisor) - *committee chair*	2024 - Present
Kenneth Berard – Chemistry (Brenda Rubenstein, supervisor)	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) - *committee chair*	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) - *committee chair*	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

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

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:

Postdoctoral	***Years***	***Subsequent Position***
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.
Research Associates	***Years***	***Subsequent Position***
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
Graduate Students	***Years***	***Subsequent Position***
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 (G. Lisi)
Emily Chen	Ph.D. 2022	Postdoctoral Fellow, Brown University (G. Lisi)
Undergraduates	***Years***	***Subsequent Position***
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	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 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
Lab Rotation Students	***Years***	***Ph.D. Graduate Program***
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

Visiting Students	***Years***	***Home Institution***	***Subsequent Position***
Allison Gallagher	2019	Washington College, MD	Virginia Commonwealth University School of Pharmacy