

Elizabeth M. Diessner

Graduate Student Researcher

Chemical, Applied, and Materials Physics Doctoral Program - Chemistry

Networks, Computation, and Social Dynamics Lab

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Education**(Expected) 2024 Ph.D. in Chemical, Applied, and Materials Physics - Chemistry**

University of California - Irvine, Irvine, CA

The Department of Chemistry

Advisor: Carter Butts

2019 B.S. in Analytical and Environmental Chemistry

George Mason University, Fairfax, VA

The Department of Chemistry and Biochemistry

Advisor: Xiaoyan Tan

2016 A.S. in Science

Northern Virginia Community College, Annandale, VA

Awards and Honors

CSW College Chemistry Achievement Award, 2019

Conference Presentations

Diessner, Elizabeth M.; Wong, Eric; Prytkova, Vera; Freitas, J Alfredo; Tobias, Doug J; and Butts, Carter T. (2/2022). "Network Hamiltonian Models for Unstructured Protein Aggregates, With Application to γ D-Crystallin" Biophysical Society Meeting, San Francisco, CA.

Diessner, Elizabeth M.; Takahashi, Gemma R.; Cross, Thomas J.; Butts, Carter T.; and Martin, Rachel W. (2/2022). "A Year In The Life Of SARS-CoV-2 Mpro: Molecular Modeling And Analysis Of Clinically Observed M^{pro} Variants From The First Year Of The Covid-19 Pandemic" Biophysical Society Meeting, San Francisco, CA.

Diessner, Elizabeth M.; Zong, Zixiao; Cross, Thomas J.; Takahashi, Gemma R.; Crosby, Marquise G.; Farahmad, Vesta; Zhuang, Shannon; Martin, Rachel W.; and Butts, Carter T. (2/2021). "The Effect of Point Mutations on Structure and Dynamics of SARS-CoV-2 Main Protease Mutants." Biophysical Society Meeting (Virtual).

Diessner, Elizabeth M. (10/2020). "Mapping the Mutational Landscape of the SARS-CoV-2 Main Protease: Molecular Modeling and Comparative Analysis" Frontiers in Machine Learning for the Physical Sciences (Virtual).

Teaching Experience

Teaching Assistant, CHEM 1LD, Department of Chemistry, University of California - Irvine, 2019-2020

Publications

Duong, Vy; **Diessner, Elizabeth M.**; Grazioli, Gianmarc; Martin, Rachel W.; and Butts, Carter T. (2021). "Neural Upscaling from Residue-level Protein Structure Networks to Atomistic Structure." *Biomolecules*, 11(12), 1788. DOI:10.3390/biom11121788

Kreutzer, Adam G., Krumberger, Maj, **Diessner, Elizabeth M.**, Parrocha, Chelsea M. T.; Morris, Michael A.; Guaglianone, Gretchen; Butts, Carter T.; and Nowick, James S. (2021). "A Cyclic Peptide Inhibitor of the SARS-CoV-2 Main Protease." *European Journal of Medicinal Chemistry*, 221(5), 113530. DOI:10.1016/j.ejmech.2021.113530

Cross, Thomas J.; Takahashi, Gemma R.; **Diessner, Elizabeth M.**; Crosby, Marquise G.; Farahmand, Vesta; Zhuang, Shannon; Butts, Carter T.; and Martin, Rachel W. (2020). "Sequence Characterization and Molecular Modeling of Clinically Relevant Variants of the SARS-CoV-2 Main Protease." *Biochemistry*, 9(39), 3741-3756. DOI:10.1021/acs.biochem.0c00462