

# Stanford

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## Hyeongtaek Lim

Postdoctoral Scholar, Photon Science, SLAC

### Bio

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#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Stanford University , Chemistry
- Master of Science, Seoul National University , Chemistry
- Bachelor of Science, Seoul National University , Chemistry

#### STANFORD ADVISORS

- Kelly Gaffney, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **K# X-ray Emission Spectroscopy of Cu(I)-Lytic Polysaccharide Monooxygenase: Direct Observation of the Frontier Molecular Orbital for H<sub>2</sub>O<sub>2</sub> Activation.** *Journal of the American Chemical Society*  
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2023
- **Tuning the Type 1 Reduction Potential of Multicopper Oxidases: Uncoupling the Effects of Electrostatics and H-Bonding to Histidine Ligands.** *Journal of the American Chemical Society*  
Singha, A., Sekretareva, A., Tao, L., Lim, H., Ha, Y., Braun, A., Jones, S. M., Hedman, B., Hodgson, K. O., Britt, R. D., Kosman, D. J., Solomon, E. I.  
2023
- **Dissociation of Pyridinethiolate Ligands during Hydrogen Evolution Reactions of Ni-Based Catalysts: Evidence from X-ray Absorption Spectroscopy.** *Inorganic chemistry*  
Ledbetter, K., Larsen, C. B., Lim, H., Zoric, M. R., Koroidov, S., Pemmaraju, C. D., Gaffney, K. J., Cordones, A. A.  
2022
- **A Thioether-Ligated Cupric Superoxide Model with Hydrogen Atom Abstraction Reactivity.** *Journal of the American Chemical Society*  
Bhadra, M. n., Transue, W. J., Lim, H. n., Cowley, R. E., Lee, J. Y., Siegler, M. A., Josephs, P. n., Henkel, G. n., Lerch, M. n., Schindler, S. n., Neuba, A. n., Hodgson, K. O., Hedman, et al  
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- **Short-lived metal-centered excited state initiates iron-methionine photodissociation in ferrous cytochrome c.** *Nature communications*  
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2021; 12 (1): 1086
- **Kbeta X-ray Emission Spectroscopy as a Probe of Cu(I) Sites: Application to the Cu(I) Site in Preprocessed Galactose Oxidase.** *Inorganic chemistry*  
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2020
- **X-ray Absorption Spectroscopy as a Probe of Ligand Noninnocence in Metallocorroles: The Case of Copper Corroles** *INORGANIC CHEMISTRY*  
Lim, H., Thomas, K. E., Hedman, B., Hodgson, K. O., Ghosh, A., Solomon, E. I.  
2019; 58 (10): 6722–30

- **Formylglycine-generating enzyme binds substrate directly at a mononuclear Cu(I) center to initiate O<sub>2</sub> activation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Appel, M. J., Meier, K. K., Lafrance-Vanasse, J., Lim, H., Tsai, C., Hedman, B., Hodgson, K. O., Tainer, J. A., Solomon, E. I., Bertozzi, C. R.  
2019; 116 (12): 5370–75
- **A Six-Coordinate Peroxynitrite Low-Spin Iron(III) Porphyrinate Complex-The Product of the Reaction of Nitrogen Monoxide (center dot NO(g)) with a Ferric-Superoxide Species** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*  
Sharma, S. K., Schaefer, A. W., Lim, H., Matsumura, H., Moenne-Loccoz, P., Hedman, B., Hodgson, K. O., Solomon, E. I., Karlin, K. D.  
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- **Metalloprotein entatic control of ligand-metal bonds quantified by ultrafast x-ray spectroscopy** *SCIENCE*  
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- **Hydroxo-Bridged Dicopper(II,III) and -(III,III) Complexes: Models for Putative Intermediates in Oxidation Catalysis** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*  
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- **Excited-state proton-relay dynamics of 7-hydroxyquinoline controlled by solvent reorganization in room temperature ionic liquids** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*  
Lim, H., Jeong, H., Park, S., Lee, J. Y., Jang, D.  
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- **Excited-State Double Proton Transfer of 7-Azaindole Dimers in a Low-Temperature Organic Glass** *PHOTOCHEMISTRY AND PHOTOBIOLOGY*  
Lim, H., Park, S., Jang, D.  
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- **Excited-State Double Proton Transfer Dynamics of Model DNA Base Pairs: 7-Hydroxyquinoline Dimers** *JOURNAL OF PHYSICAL CHEMISTRY A*  
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