



## Gwanggyu Sun

Ph.D. Student in Bioengineering, admitted Autumn 2017

 Curriculum Vitae available Online

### Bio

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#### HONORS AND AWARDS

- Kwanjeong Educational Foundation Scholarship, Kwanjeong Educational Foundation (2017 - 2022)

#### EDUCATION AND CERTIFICATIONS

- Master of Science, Stanford University , BIOE-MS (2020)
- B.S., Seoul National University , Chemical and Biological Engineering, Biological Sciences, Computer Science and Engineering (2017)

### Research & Scholarship

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#### LAB AFFILIATIONS

- Markus Covert, Covert Lab (4/2/2018)

### Publications

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#### PUBLICATIONS

- **Cross-evaluation of E. coli's operon structures via a whole-cell model suggests alternative cellular benefits for low- versus high-expressing operons.** *Cell systems*  
Sun, G., DeFelice, M. M., Gillies, T. E., Ahn-Horst, T. A., Andrews, C. J., Krummenacker, M., Karp, P. D., Morrison, J. H., Covert, M. W.  
2024
- **The EcoCyc Database (2023).** *EcoSal Plus*  
Karp, P. D., Paley, S., Caspi, R., Kothari, A., Krummenacker, M., Midford, P. E., Moore, L. R., Subhraveti, P., Gama-Castro, S., Tierrafria, V. H., Lara, P., Muñiz-Rascado, L., Bonavides-Martinez, et al  
2023: eesp00022023
- **An expanded whole-cell model of E. coli links cellular physiology with mechanisms of growth rate control.** *NPJ systems biology and applications*  
Ahn-Horst, T. A., Mille, L. S., Sun, G., Morrison, J. H., Covert, M. W.  
2022; 8 (1): 30
- **The E. coli Whole-Cell Modeling Project.** *EcoSal Plus*  
Sun, G., Ahn-Horst, T. A., Covert, M. W.  
2021: eESP00012020
- **Simultaneous cross-evaluation of heterogeneous E. coli datasets via mechanistic simulation.** *Science (New York, N.Y.)*  
Macklin, D. N., Ahn-Horst, T. A., Choi, H., Ruggero, N. A., Carrera, J., Mason, J. C., Sun, G., Agmon, E., DeFelice, M. M., Maayan, I., Lane, K., Spangler, R. K., Gillies, et al  
2020; 369 (6502)
- **BeReTa: a systematic method for identifying target transcriptional regulators to enhance microbial production of chemicals** *BIOINFORMATICS*

Kim, M., Sun, G., Lee, D., Kim, B.  
2017; 33 (1): 87–94

## **PRESENTATIONS**

- Using Reinforcement Learning to Optimize the Rules of a Board Game - CS 229 Project Poster Session, Fall 2019, Stanford University