

# Stanford

---



## Changxin Lyla Dong

Ph.D. Student in Materials Science and Engineering, admitted Autumn 2022

### Bio

---

#### BIO

Lyla Dong is committed to advancing innovative materials solutions that address critical challenges in health and environmental sustainability. Her research spans multiple fields, including hydrogel development, materials characterization, and electrochemistry. As a PhD candidate at Stanford University advised by Professor Eric A. Appel, she focuses on creating cutting-edge materials to protect against wildfires and improve therapeutic delivery systems.

Prior to her studies at Stanford, Lyla conducted research under the mentorship of Professors Pulickel M. Ajayan and Haotian Wang at Rice University. She developed functional materials for batteries and explored technologies for carbon capture, discovering her passion for sustainable materials science.

Through her interdisciplinary approach, Lyla strives to bridge the critical intersections between health and environmental sustainability, creating solutions that have a real-world impact.

#### EDUCATION AND CERTIFICATIONS

- M.S., Stanford University , Materials Science and Engineering (2024)
- B.S., Rice University , Materials Science and NanoEngineering (2022)

#### LINKS

- LinkedIn: <https://www.linkedin.com/in/lyla-dong-462139164/>
- Lab: <http://www.supramolecularbiomaterials.com/>
- News: <https://www.cbsnews.com/sanfrancisco/news/stanford-scientists-develop-gel-protect-homes-against-wildfires/>

### Publications

---

#### PUBLICATIONS

- **Water-Enhancing Gels Exhibiting Heat-Activated Formation of Silica Aerogels for Protection of Critical Infrastructure During Catastrophic Wildfire.** *Advanced materials (Deerfield Beach, Fla.)*  
Dong, C., d'Aquino, A. I., Sen, S., Hall, I. A., Yu, A. C., Crane, G. B., Acosta, J. D., Appel, E. A.  
2024: e2407375
- **Continuous carbon capture in an electrochemical solid-electrolyte reactor.** *Nature*  
Zhu, P., Wu, Z. Y., Elgazzar, A., Dong, C., Wi, T. U., Chen, F. Y., Xia, Y., Feng, Y., Shakouri, M., Kim, J. Y., Fang, Z., Hatton, T. A., Wang, et al  
2023; 618 (7967): 959-966

- **Polyacrylamide-Based Antimicrobial Copolymers to Replace or Rescue Antibiotics** *ACS CENTRAL SCIENCE*  
Williams, S. C., Chosy, M. B., Jons, C. K., Dong, C., Prossnitz, A. N., Liu, X., Hernandez, H., Cegelski, L., Appel, E. A.  
2025
- **Viral Vector Eluting Lenses for Single-Step Targeted Expression of Genetically-Encoded Activity Sensors for in Vivo Microendoscopic Calcium Imaging.** *Macromolecular bioscience*  
Jons, C. K., Cheng, D., Dong, C., Meany, E. L., Nassi, J. J., Appel, E. A.  
2024: e2400359
- **Biomimetic Non-ergodic Aging by Dynamic-to-covalent Transitions in Physical Hydrogels.** *ACS applied materials & interfaces*  
Sen, S., Dong, C., D'Aquino, A. I., Yu, A. C., Appel, E. A.  
2024
- **Fluorinated Multi-Walled Carbon Nanotubes Coated Separator Mitigates Polysulfide Shuttle in Lithium-Sulfur Batteries.** *Materials (Basel, Switzerland)*  
Salpekar, D., Dong, C., Oliveira, E. F., Khabashesku, V. N., Gao, G., Ojha, V., Vajtai, R., Galvao, D. S., Babu, G., Ajayan, P. M.  
2023; 16 (5)