



**American Institute of Chemical Engineers,  
Cleveland Section # 017**

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**CRISPR, a Molecular Scissor, Reshapes the Future  
of Bioengineering and Biotechnology**

**Tuesday, January 12, 2021**

**Abstract:**

For generations, the field of bioengineering and biotechnology has been defined by the discoveries from the field of biology. Now, owing to the transformative discovery of CRISPR Cas systems (Nobel Prize in Chemistry 2020), a programmable molecular scissor, scientists have expanded this unique capability toward various bioengineering applications from synthetic biology to biomedical devices. Moreover, the marriage of this fundamental biological capability with engineering disciplines has shifted the pendulum of biotech research from “what we can discover” to “what we can construct”. With the continuing developments of such interdisciplinary research infrastructure, a whole new world of problems in biology, medicine and healthcare begin to be approachable.

Dr. Yifan Dai, [yxd176@case.edu](mailto:yxd176@case.edu)

**Dr. Yifan Dai** is currently a postdoctoral scientist of the Department of Biomedical Engineering at Duke University. He obtained his B.S. and Ph.D. from the Department of Chemical and Biomolecular Engineering of Case Western Reserve University. He was trained in the field of chemical engineering, electrochemistry and analytical chemistry with Prof. Chung Chiun Liu, Distinguished University Professor of Case Western. During his time at Cleveland, Dr. Dai had focused on the developments of CRISPR based biochemical circuits for biosensor developments, leading to the first CRISPR based electrochemistry sensing system. Currently, his research focuses to constitute synthetic biological systems for understanding and intervening natural biological processes and biomedical applications.

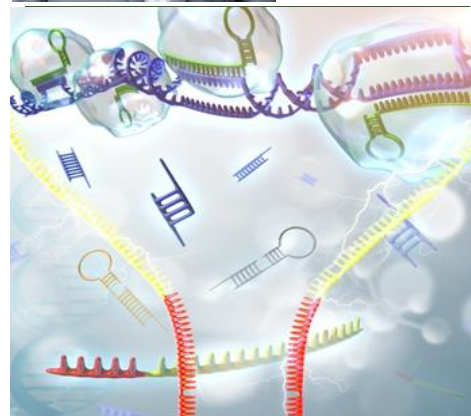
Dr. Yifan Dai looks forward to an evening of discussion with the AIChE Cleveland Section. The Zoom presentation will be from a Zoom virtual meeting format, and those interested in attending will make their arrangements through the AIChE attached link below. Please email Joseph Yurko if you plan to attend so AIChE will be able to send you the email Zoom link before the meeting. An AIChE Continuing Professional Development certificate will be issued to you after the meeting. Thank you!



Duke University



Latin: Universitas Dukiana<sup>[1]</sup>



**Meeting Location:**

**Zoom link to be emailed ahead of the meeting time by AIChE**

**Note:** If the Zoom meeting closes after 40 minutes, please try to re-enter the Zoom Meeting via the same original link as your first time with the same password.

7:00 - 8:00 pm: Zoom Meeting  
8:00 - 8:30 pm: Questions & Answers

**Cost:** (no cost)

**Menu:** (Zoom Virtual Meeting, no meal)

**RSVP by January 8<sup>th</sup> with Joseph Yurko and AIChE: [j.yurko@sbcglobal.net](mailto:j.yurko@sbcglobal.net)**

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