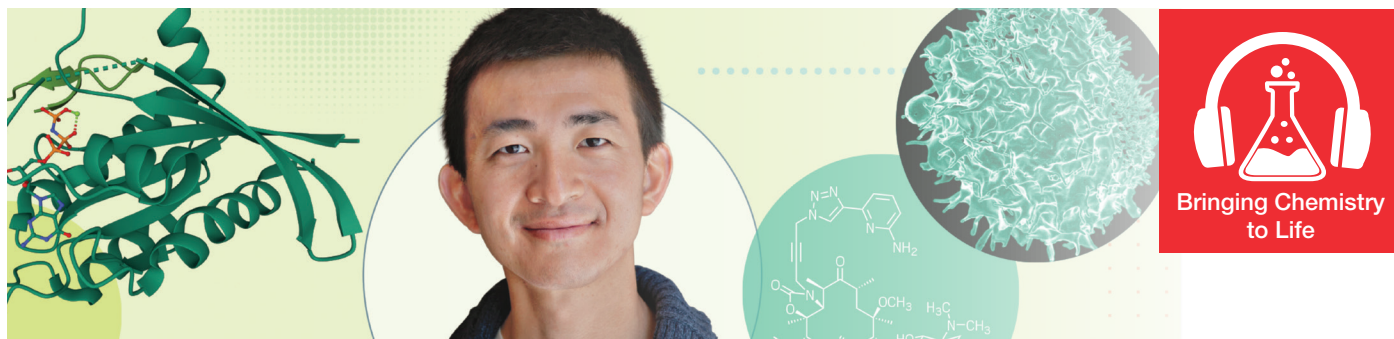


Bringing Chemistry to Life podcast series

ThermoFisher
SCIENTIFIC

Season 3: The 2021 C&EN's Talented 12

Episode 6: A fresh perspective on the development of new drugs



Episode abstract

Antibiotics are an incredibly important class of drugs and possibly the most impactful, life-changing scientific innovation in history. However, microorganisms reproduce themselves very rapidly and can evolve in literal minutes. We can't iterate science this quickly, which is the basis of increasing cases of antibiotic resistance that are a growing concern in modern medicine.

Antibiotics are complex both chemically and in their biological function, which makes them hard to develop and a relatively unattractive pharmaceutical class from the business perspective. Like never before, we need a fresh perspective, and this is where Ziyang Zhang is leaving an impression.

Ziyang is young, but incredibly productive and creative. Even before starting with his own research group (soon at Berkley), he has achieved so much and shown incredible chemical talent and thinking unlike anyone else's. His new way of thinking can affect drug development strategies for antibiotics and beyond.

This is a captivating discussion with an incredible character, that fascinates with his understated style as he introduces us to his chemistry and his ideas. In a classic BCTL way, we explore his personal and professional path, his research into macrolide antibiotics, and his novel approach to selectively targeting brain cancer.

About our guest

Ziyang Zhang, PhD

Postdoctoral Scholar, Cellular Molecular Pharmacology, UCSF
Assistant Professor, Department of Chemistry, UC-Berkeley

Ziyang's group sites: <https://shokatlab.ucsf.edu/people/> & <https://www.thezlab.org>

C&EN Talented 12 profile of Ziyang: <https://cen.acs.org/pharmaceuticals/drug-discovery/Ziyang-Zhang/99/i30>

This podcast series is available via the following links



Ziyang's Recent Publications:

- [Brain-Specific Inhibition of mTORC1 Eliminates Side Effects Resulting from mTORC1 Blockade in the Periphery and Reduces Alcohol Intake in Mice](#)
- [Drug-Induced Phospholipidosis Confounds Drug Repurposing for SARS-CoV-2](#)
- [GTP-State-Selective Cyclic Peptide Ligands of K-Ras\(G12D\) Block Its Interaction with Raf](#)
- [Bifunctional Small-Molecule Ligands of K-Ras Induce Its Association with Immunophilin Proteins](#)
- [A Platform for The Discovery of New Macrolide Antibiotics](#)

Ziyang's Content Recommendations:

- [Delta Lake](#) (An Alpine Lake in the Grand Teton National Park)
- [San Francisco Marathon](#) (A great way to see the City of San Francisco)
- [How To: Absurd Scientific Advice for Common Real-World Problems](#) (A book about using rigorous science to solve everyday problems)
- [The Eighth Day of Creation](#) (A comprehensive history of recent biological science)
- [A Man Called Ove](#) (A book about a curmudgeon and how he is changed by new neighbors)

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