

CSCB Virtual Seminar Series

Can We Predict Functional Consequence of a Mutation? Progress Toward Identifying Oncogenic Driver Mutations.

Date: 14th May 2021 (Friday)

Time: 12noon-1pm (SGT)

Venue: *via Zoom*

For details, please contact:

Jamie Liew: jamie.liew@duke-nus.edu.sg

Nakeisha Tan: nakeisha.tan@duke-nus.edu.sg

Abstract:

Oncogenic mutations in the ATP-binding sites of RTKs are potent tumor drivers. However, population level next-generation sequencing data from cancer patients indicates a complex mutational landscape. NGS data are available from over one million cancer patients, and these data yield tumor mutational profiles with greater than one hundred thousand unique mutations. With only several hundred 'validated' oncogenic mutations known, we combine machine learning and experimental methods to identify, validate, and aggregate oncogenic mutations. We have shown that oncogenes are activated by mutations in regions far removed from the active site. Functional validation of non-canonical driver mutations has led us to conclude that there are multiple active conformations which result in an alternate drug selectivity patterns. We show that rare and recurrent driver mutations in well-known oncogenes can be grouped into druggable families that merit clinical study..

Speaker:



David M. Epstein, Ph.D.

Adjunct Associate Professor

Programme in Cancer & Stem Cell Biology, Duke-NUS

Co-Founder, President and CEO,
Black Diamond Therapeutics

David Epstein is the CEO of Black Diamond Therapeutics an oncology precision medicine company. David was Vice Dean, Innovation & Entrepreneurship and A/Professor in Cancer & Stem Cell Biology, at Duke-NUS. David established the Centre for Technology & Development launching eight start-ups from Duke-NUS. Previously, David was CSO at OSI Pharmaceuticals. David studied Chemistry (B.Sc.) Biochemistry (Ph.D.) and completed a post-doctoral fellowship in protein structure, function and dynamics.

Host:

David Virshup

Professor & Director

Programme in Cancer & Stem Cell Biology

Duke-NUS Medical School

Singapore

**No registration is required
for attendance via Zoom.
All are welcome.**