



**Seminar Topic:
Digital molecular analytics and the coming paradigm shift in
diagnostics**

Professor Jay T Groves

Abstract

While the fields of molecular imaging and detection technologies have flourished over the past 25 years, there remains a surprising disconnect with the level of molecular science used in clinical diagnostics. This has been made most apparent during the COVID-19 pandemic, during which slow and cumbersome testing has dragged down virtually all aspects of society. This is just one timely example, in fact many aspects of medical diagnostic and public health monitoring systems use science more than a half century old and are thoroughly out of synchrony with the 21st century. The Institute for Digital Molecular Analytics and Science (IDMxS) was founded to help drive the paradigm shift to digital molecular analytics, which refers to the process of molecular detection through massively parallel single molecule sensing. This emerging field of science offers exciting opportunities linking the fields of data science and machine learning with molecular analysis and mobile device networks. I will introduce the science of digital molecular analytics and discuss plans to grow IDMxS at NTU and globally during this seminar.

Biography

After receiving his Ph.D. from Stanford in 1998 Professor Groves launched his first Silicon Valley company, which worked at the interface of biology and semiconductor fabrication technology. He served as Acting CEO and Chairman of the Board of Directors for over ten years while simultaneously building his academic career at UC Berkeley, reaching Full Professor there in 2010. After selling his first company in 2014, Professor Groves founded his second company in 2016 as part of his scientific move into the molecular diagnostics space. As these ideas expanded, Professor Groves led a proposal for a new Research Center of Excellence in Singapore, which was launched as the Institute for Digital Molecular Analytics and Science (IDMxS) in October 2021.

Wednesday, 23 March 2022 || Time: 2:30 pm - 3:30 pm ||
Live Streaming Link (Zoom Meeting): <https://ntu-sg.zoom.us/j/85813436895>
Meeting ID: 858 1343 6895 Passcode: 230322
Hosted by: Professor Ng Kee Woei