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Atomically Thin Materials**

MCATM SEMINAR

2D Transition Metal Dichalcogenide for Next Generation Electronics

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Abstract: It is known that Moore's law may not be valid in 7 nm technology nodes if we consider only Si or III-V semiconductors. Atomically thin 2D Transition metal dichalcogenide (TMD) materials are promising materials for post-Si electronics, where their ultra-thin body structure may be able to serve for 5 nm and 3 nm technology nodes, meaning that Moore's law could be further extended with these materials. We have demonstrated a 10 nm channel length of transistor based on MoS₂ few layers using microelectronic compatible processes.

About the Speaker: Prof. Jain-Jong Li received his PhD from Oxford University in 2006. After which, he was an assistant professor in Nanyang Tech. Univ. Singapore (2006-2009) and since 2010, he has become an Associate Prof. at Academia Sinica Taiwan. He joined the Physical Sciences and Engineering Division at KAUST in 2014 where he is now a Professor of Materials Science and Engineering.

Li has received numerous awards including a Humboldt Research Fellowship for Experienced Researchers (Germany 2011), a Career Development Award Taiwan (2010), an Academia Sinica Research Award and a Wu Ta-Yu Research Award in 2013. His publications have achieved > 12460 citations in more than 210 SCI journals and a h-index of 55 (ISI Web of knowledge). He is also a CTO of one start-up company, Nitronix Nanotech Inc., in Taiwan.

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