

CHUA Daniel



Associate Professor

Ph.D. (Electrical Engineering), University of Cambridge, UK, 2004

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Research Interests

1. Inorganic Carbon-based materials (Diamond, graphene, etc)
2. Plasma and CVD deposition systems
3. PEM fuel cells, HER, Supercapacitors
4. Electron emission and NVM devices

Selected Publications:

1. D. Haiwen, A. Rath, Y. S. Hearn, S.J. Pennycook and D. H.C.Chua; "Temperature-controlled Vapor deposition of Highly Conductive p-type Reduced Molybdenum Oxides by Hydrogen Reduction", J. Phys. Chem. Lett. (2018). DOI: 10.1021/acs.jpclett.8b03437.
2. Z. Q. Cavin Ng, R. K. K. Tan, A. Rath, A. T. S. Wee, D. H. C. Chua: "Self-Assembled 2D Finned Covellite (CuS) for Resistive RAM", Appl. Phys. Lett. 113, 063102 (2018).
3. Jiang J, C P Y Wong, J Zou, S Li, Q Wang, J Chen, D Qi, H Wang, G Eda, D H C Chua, Y Shi, W Zhang and A T S Wee*, "Two-step fabrication of single-layer rectangular SnSe flakes", 2D Materials, 4(2), 021026, (2017)
4. Pham, KC, DS McPhail, A T S Wee and D H C Chua*, "Amorphous MoS₂ on Graphene-CNT hybrids as supercapacitor electrode materials", RSC Advances, 7, 6856 (2017)
5. Loh, T, D H C Chua* & A.T.S. Wee "One-step Synthesis of Few-layer WS₂ by PLD", Scientific Reports, 5:18116 (2016)
6. Pham, KC, Y.H. Chang, DS McPhail, C. Mattevi, A T S Wee and D H C Chua*, "Amorphous MoS₂ on Graphene-CNT hybrids as highly active HER catalysts", ACS Appl Materials & Interface, 8, 5961 (2016)
7. Hu Y and D H C Chua*, "Synthesizing 2D MoS₂ Nanofins on Carbon Nanospheres as catalyst support for PEM fuel cells", Scientific Reports, 6: 28088 (2016)
8. Loh, T and D H C Chua*, "Origin of hybrid 1T and 2H WS₂ Ultrathin layers by PLD", J. Phy. Chem. C, 119(49), 27496 (2015)
9. A.T.T. Koh, Y.M. Foong, Z. Yusop, M. Tanemura and D H C Chua*, "Low temperature direct Graphene onto Metal Nano-Spindt Tip with Applications in Electron Emission". Adv. Mater. Interfaces. 1, 1300147 (2014).

10. Loh, T and D H C Chua*, "Growth mechanism of Pulsed Laser Fabricated Few Layer MoS₂ on Metal substrates", ACS Appl Mater. Interfaces, 6, 15966 (2014)
11. Pham, KC, D H C Chua*, DS McPhail and A T S Wee, "The Direct Growth of Graphene-Carbon Nanotube Hybrids as Catalyst Support for High-Performance PEM Fuel Cells". ECS Electrochemistry Letters, 3(6) F37-F40 (2014).
12. Loh, T and D H C Chua*, "Dual-Functional Magnetic and Field Emission Properties of γ -Fe₂O₃ coated carbon nanotubes core-shell structures". ECS Journal of Solid State Science and Technology, 3(4) M11-M17 (2014)