

ประวัตินักวิจัย

หัวหน้าโครงการวิจัย

ชื่อ-นามสกุล นายฐิตินัย แก้วแดง

ตำแหน่งปัจจุบัน รองศาสตราจารย์ ระดับ 9

ประวัติการศึกษา

ปีที่จบการศึกษา	ระดับปริญญา	อักษรย่อปริญญา	สาขาวิชา	ชื่อสถาบันการศึกษา
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สาขาวิชาการที่มีความชำนาญพิเศษ (แตกต่างจากวุฒิการศึกษา)

ฟิสิกส์ของแข็ง ฟิสิกส์สารกึ่งตัวนำ

ผลงานวิจัย/งานสร้างสรรค์ที่ตีพิมพ์เผยแพร่ (ระดับชาติและนานาชาติ)

1. T. Gaewdang and Ng. Wongcharoen “Influence of Oxygen Flow Rate on Structural, Optical and Electrical Properties of Copper Oxide Thin Films Prepared by Reactive Magnetron Sputtering” IOP Conf. Series: Materials Science and Engineering, Vol. 211, 2017, pp. 012025-1-012025-5.
2. Ng. Wongcharoen and T. Gaewdang “Tin Sulphide Prepared by Sulphurisation Process using Metallic Tin Film Precursor Obtained from dc Magnetron Sputtering Method” IOP Conf. Series: Materials Science and Engineering Vol. 211, 2017, pp. 012026-1-012026-6.
3. Ng. Wongcharoen and T. Gaewdang “Preparation of CuO Thin Films by Thermally Oxidized Metallic Cu Films for CdS/CuO Heterojunction Diode” CMU J. Nat. Sci., Vol. 16(1), 2017, pp. 63-76.
4. Ng. Wongcharoen and T. Gaewdang “Influence of Annealing Temperature on the Properties of SnS Thin Films Prepared by Vacuum Thermal Evaporation” Materials Science Forum, Vol. 890, 2017, pp. 295-298.

5. T. Gaewdang and Ng. Wongcharoen “Physical Properties of $\text{CdS}_x\text{Te}_{1-x}$ Thin Films Prepared by Close Spaced Sublimation Method” *Materials Science Forum*, Vol. 890, 2017, pp. 291-294.
6. T. Gaewdang and Ng. Wongcharoen “Heterojunction Properties of p-CuO/n-CdS Diode” *Advanced Materials Research*, Vol. 1098, 2015, pp. 1-5.
7. Ng. Wongcharoen and T. Gaewdang “Effect of Oxidation Temperature on the Properties of CuO Thin Films Prepared by Thermal Oxidation of Sputtered Cu Thin Films” *Advanced Materials Research*, Vol. 1098, 2015, pp. 6-11.
8. T. Gaewdang and Ng. Wongcharoen “Electrical Parameters and Conduction Mechanisms in CdS/CuO Thin Film Heterojunction” *International Symposium on Fundamental and Applied Sciences (ISFAS) March, 2015, Osaka, Japan, Proceedings*, pp. 858-865.
9. Ng. Wongcharoen and T. Gaewdang “Preparation and Characterization of Copper Oxide Thin Films Prepared by Oxidation of Thermally Evaporated Cu Thin Films” *International Symposium on Fundamental and Applied Sciences (ISFAS) March, 2015, Osaka, Japan, Proceedings*, pp. 866-873.
10. T. Gaewdang and Ng. Wongcharoen “Electrical Conduction Mechanism in n-CdS/p-CuFeO₂ Heterojunction Diode” *Advanced Materials Research*, Vol. 931-932, 2014, pp. 122-126.
11. Ng. Wongcharoen and T. Gaewdang “Influence of Na Doping on the Thermoelectric Properties of CuAlO₂ Delafossite” *Advanced Materials Research*, Vol. 931-932, 2014, pp. 127-131.
12. Ng. Wongcharoen and T. Gaewdang “Electrical Characterization of n-CdS/p-CuCrO₂ Heterojunction” *Hong Kong International Conference on Engineering and Applied Science (HKICEAS) December 19-21, 2013, Hong Kong, Proceedings*, pp. 781-788.
13. T. Gaewdang and Ng. Wongcharoen “Influence of Annealing Temperature on Microstructure, Optical and Electrical Properties of Digenite Thin Films” *Hong Kong International Conference on Engineering and Applied Science (HKICEAS) December 19-21, 2013, Hong Kong, Proceedings*, pp. 774-780.
14. T. Gaewdang, Ng. Wongcharoen and T. Wongcharoen “Effect of Annealing Temperature on the Optical Parameters of CdS Thin Films Prepared by Thermal Evaporation Method” *Advanced Materials Research*, Vol. 747, 2013, pp. 329-332.

15. Ng. Wongcharoen, T. Gaewdang and T. Wongcharoen “Structural and Thermoelectric Properties of Zn-Doped Cuprous Aluminate Delafossite” *Advanced Materials Research*, Vol. 747, 2013, pp. 333-336.
16. Ng. Wongcharoen, T. Gaewdang and T. Wongcharoen “Determination of Gap State Density in n-CdS/p-CuAlO₂ Heterojunction” *Asian Conference on Civil, Material and Environmental Sciences (ACCMES) 2013*, March 15-17, 2013, Tokyo, Japan, *Proceedings*, pp. 2078-2088.
17. T. Gaewdang, Ng. Wongcharoen and T. Wongcharoen “Preparation and Characterization of CdS_xTe_{1-x} (0 ≤ x ≤ 1) Thin Films” *Asian Conference on Civil, Material and Environmental Sciences (ACCMES) 2013*, March 15-17, 2013, Tokyo, Japan *Proceedings*, pp. 2070-2077.
18. T. Gaewdang, Ng. Wongcharoen and T. Wongcharoen “Characterization of CdS/CdTe Heterojunction Solar Cell by Current- Voltage Measurements at Various Temperatures under Illumination”, *Energy Procedia*, vol. 15, 2012, pp. 299-304.
19. Ng. Wongcharoen, T. Gaewdang and T. Wongcharoen “Electrical Properties of Al-Doped CdO films Prepared by Thermal Evaporation in Vacuum” *Energy Procedia*, vol. 15, 2012, pp. 361-370.

ผู้ร่วมวิจัย

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20. T. Gaewdang, Ng. Wongcharoen, A. Nopparuchikun, T. Wongcharoen and C. Poo-Rakkiat “Fabrication and Characterization of Heterojunction of CdS Thin Films and CuAlO₂ Ceramic Pill Substrate” Journal of Metals, Materials and Minerals, vol. 22(2), 2012, pp. 125-129.
21. Ng. Wongcharoen and T. Gaewdang, “Thermoelectric Properties of Ni-Doped CuAlO₂” Physics Procedia, vol.2, 2009, pp.101-106.
22. Wongcharoen, T. Gaewdang, P. Siripuddhaiwon and N. Promros “Influence of Substrate Temperature on Some Properties of Close-Spacing Thermal Evaporated CdTe Thin Films” Advanced Materials Research, Vol. 55-57, 2008, pp.881-884.
23. T. Gaewdang and Ng. Wongcharoen “Optical and Electrical Properties of Chemical Bath Co-Deposited CdS-ZnS Thin Films” ISES Solar World Congress 2007, September 18- 21, 2007, Beijing, China, Proceedings, pp.1299-1302.
24. Ng. Wongcharoen and T. Gaewdang “Co-existence of F and Sb Dopant in Transparent Conducting SnO₂ Thin Films Prepared by Ultrasonic Spray Pyrolysis Method” ISES Solar World Congress 2007, September 18- 21, 2007. Beijing, China, Proceedings, pp.1269-1274.
25. T. Gaewdang and Ng. Wongcharoen “Growth and Characterization of Co-Doped Fluorine and Antimony in Tin Oxide Thin Films Obtained by Ultrasonic Spray Pyrolysis” Journal of Solid Mechanics and Material Engineering, Vol. 1, No. 4, 2007, pp.592-601. (ผู้วิจัยหลัก)
26. T. Gaewdang “Investigations on Chemically Deposited Cd_{1-x}Zn_xS Thin Films With Low Zn Content” Materials Letters, Vol.59, 2005 pp. 3577- 3584.
27. Ng. Wongcharoen and T. Gaewdang “Comparative Studies of Thermally Evaporated Cd_{1-x}Zn_xS Thin Films Prepared by Using Different Precursors” Technical Digest of the International PVSEC-15, 10-15 October 2005, Shanghai, RPC. pp.694- 695.
28. T. Gaewdang and Ng. Wongcharoen “Optical and Electrical Properties of B-Doped Cd_{0.6}Zn_{0.4}S Thin Films Prepared by Chemical Bath Deposition Method” Technical Digest of the International PVSEC-15, 10-15 October 2005, Shanghai, RPC. pp.696- 697.
29. Ng. Gaewdang and T. Gaewdang “Thickness Dependence of Structural, Optical and Electrical Properties of CdS and CdS:In Films Prepared by Thermal Evaporation” Technical Digest of the International PVSEC-14, Bangkok, Thailand. 2004, pp.581-582.

30. Ng. Gaewdang, T. Gaewdang and W. Lipar “Some Characterization of Chemical Bath Co-Deposited CdS- ZnS Thin Films” Technical Digest of the International PVSEC-14, Bangkok, Thailand. 2004, pp.583-584.