

Bo-Yu Chen (Matt)

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EDUCATION

B.S., National Taiwan University

Start in Sep. 2023

- Studied in Department of Physics
- 1st place for undergraduate admission

Affiliated Senior High School of National Taiwan Normal University

Aug. 2020 – Jun. 2023

- Studied in computer science program; Major GPA: 100/98/100 (Math/Physics/Scale)

RESEARCH EXPERIENCE

Northwestern University, Department of Computer Science

Jan. 2023 – present

Advisors: Prof. Han Liu and Dr. Yao-Chieh Hu

- Undergraduate research at Modern Artificial Intelligence General Computer System (MAGICS) lab
- Investigated the computational burden associated with modern Hopfield models.

Chung Yuan Christian University, Department of Electronic Engineering

Aug. 2021 – present

Advisors: Prof. Chiashain Chung and Prof. Dung-Sheng Tsai

- Improved the performance of graphene-based sensors with the transfer-free process.
- Synthesis skills with various techniques: CVD, PVD, mechanically exfoliated method
- Experience in various characterizations and testing techniques: AFM, Raman, XRD

National Taiwan Normal University, Department of Physics

Oct. 2021 – May 2022

Advisors: Prof. Po-Han Lee and Prof. Yin-Kuo Wang

- Theoretically investigated reasonable 13 half-metallic ferrimagnetism in double perovskites.
- Proficiency in data analysis and programming: Matlab, VASP and VESTA

PEER-REVIEWED JOURNAL PAPERS

1. **B.-Y. Chen**, B.-W. Chen, W.-Y. Uen, P.-H. Lee, C. Chen, C. Chuang, D.-S. Tsai, “[Air-stable high magnetoresistance at room temperature in nickel-catalyzed transfer-free graphene under a low magnetic field](#)” (Under reviewed by *Journal of Physics D: Applied Physics*). (2022)
2. J.-W. Ci, **B.-Y. Chen**, C.-W. Kuo, H.-C. Wang, P.-Y. Lai, P.-W. Chen, Z.-Y. Fan, M.-T. Wu, J.-E. Huang, Y.-C. Hung, C.-H. Chen, P.-H. Lee, Y.-L. Zhong, J.-S. Wang, W.-Y. Uen, D.-S. Tsai, C. Chuang, “[Modulation of quantum electronic material transport via vacuum annealing](#)”, *Journal of the Vacuum Society of the R.O.C.* 35(3), 29-36. (2022)
3. **B.-Y. Chen**, P.-H. Lee, Y.-K. Wang, “[First-Principles Study on Possible Half-Metallic Ferrimagnetism in Double Perovskites \$Pb_2XX'O_6\$ \(\$X = Ti, Zr, Hf, V, Nb\$ and \$Ta\$, \$X' = Tc, Ru, Os\$ and \$Rh\$ \)](#)”, *Materials* 15(9), 3311. (2022)
4. **B.-Y. Chen**, B.-W. Chen, W.-Y. Uen, J.-W. Ci, P.-H. Lee, C. Chuang, D.-S. Tsai, “[Magnetoresistance Properties in Direct Synthesis of Graphene on Insulator Substrates](#)”, *Journal of the Vacuum Society of the R.O.C.* 35(2), 31-1~31-7. (2022)

CONFERENCE PRESENTATIONS

1. **B.-Y. Chen**, B.-W. Chen, J.-W. Ci, W.-Y. Uen, P.-H. Lee, C. Chen, C. Chuang, D.-S. Tsai, *Temperature-Dependent Magnetoresistance of Transfer-Free Graphene Grown by APCVD*, 13th Recent Progress in Graphene and Two-dimensional Materials Research Conference, Taipei, Taiwan, November 2022
2. **B.-Y. Chen**, P.-H. Lee, Y.-K. Wang, *Ab initio study on the growth mechanism of graphene on metal*, 2022 Annual Meeting of the Physical Society of Taiwan, Taipei, Taiwan, January 2022
3. **B.-Y. Chen**, P.-H. Lee, Y.-K. Wang, *Layer-dependent properties of $SnSe_2$ two dimensional materials*, 2022 Annual Meeting of the Physical Society of Taiwan, Taipei, Taiwan, January 2022