Yingying Ma

86-13220121758 | mayingying2006666@gmail.com | Haidian District, Beijing, 100081, CHN

EDUCATION BACKGROUND

Beijing Kaiwen Academy **(08/2021 - 06/2025)**

GPA:

High Honor Roll Student Recognized for GPA above 4.0+ with no unexcused absences Grade 9-11

Harvard Pre-College Summer Program **(06/2024 - 07/2024)**

University of Pennsylvania Summer High School Chemistry Research Academy **(07/2024 - 07/2024)**

STANDARDIZED SCORES AND LANGUAGE SCORES

ACT: 36 12/02/2023

TOEFL:

AP: 05/2024—Biology (5), Calculus BC(5), Environmental Science(4), Macroeconomics(5), Physics 1(5), Physics 2(5), Physics C Mechanics(5), Statistics(5), Chemistry(5), Microeconomics(5)

05/2025—Art History, Computer Science A, English Language & Composition, Physics C - Electricity & Magnetism, United States History, German

RESEARCH

The Relationship between Late Devonian Environmental Evolution and Organic Matter Enrichment

https://drive.google.com/file/d/1lCt4avfG2V5ecPq-xWvIQnhusUowXw6C/view?usp=drivesdk

- Accepted by the 2024 International Conference on Environmental Science and Sustainable Development (ESSD 2024)
- Revealed the impact of climatic shifts and ocean chemistry on organic matter preservation.
- Contributed insights into ancient environmental conditions and their role in mass extinctions.

Advancing Disaster Management through Remote Sensing: Applications, Challenges, and Future Prospects

https://drive.google.com/file/d/1NzjIEkqGHHNxk6yNHsICT1f1rPPz4_ff/view?usp=drivesdk

- Accepted by EnviroSummit: Discussing Environmental Sciences
- Utilized handheld 3D laser scanners to collect detailed spatial data of cave systems, leveraging non-contact, automated, and accurate measurement techniques.
- Conducted point cloud preprocessing to enhance data quality, involving noise removal, multi-view alignment, data simplification, and surface reconstruction.
- Used multiple software tools for point cloud modeling, including Autodesk ReCap for initial processing, Cyclone 3DR for surface modeling, and 3ds Max for final model refinement and realistic visualization.

Iron Oxide Nanofiber Catalysts for Organic Pollutant Degradation (S.-T. Yau High School Science Award)

https://drive.google.com/file/d/1LB_NCrhaZ-Or4urRVfFLw80oyhTs7zd8/view?usp=drivesdk

- Synthesized iron oxide nanofibers using electrospinning and calcination techniques.
- Demonstrated significant improvement in degrading organic pollutants such as methylene blue and rhodamine B.
- Contributed to advancement of catalytic materials for environmental remediation, especially in wastewater treatment.

Changes of Photosynthesis Efficiency during the Process of Modern Maize Breeding

https://drive.google.com/file/d/1U25Ewrz-Nx_fuUX9pM1C0s2yNdd1DtB3/view?usp=drivesdk

- Accepted by 2024 International Symposium on Agricultural Engineering and Biology (ISAEB 2024)
- Addressed global food supply challenges by focusing on improving maize's photosynthetic efficiency, a key factor in crop yield.
- Demonstrated significant increases in these indexes with age, guiding development of high-efficiency photosynthetic maize varieties.

Geological Features of Geographical Biomes and Their Environmental Impact

https://drive.google.com/file/d/1aIJRRtlOksR8vXSNpNqvRDfj3sJe7y97/view?usp=drivesdk

- Accepted by 2024 International Conference on Innovations in Applied Mathematics, Physics and Astronomy
- Investigated impact of geological processes on biome structure and biodiversity, including tropical rainforests and deserts.
- Demonstrated importance of bedrock types, soil formation, and hydrogeological features in ecosystem dynamics.
- Provided insights for developing conservation strategies that account for geological and biological factors.

Atmospheric Circulation on Other Planets: Venus, Mars, Jupiter

https://drive.google.com/file/d/1RGfV3tA4NIfz8CFrAIDYdcEGKXE-Wq1c/view?usp=drivesdk

- Will be published in Theoretical and Natural Science (TNS) (Print ISSN 2753-8818) and submitted to CPCI, Crossref, CNKI, Google Scholar, and other databases for indexing.
- Conducted comparative analysis of atmospheric circulation on Venus, Mars, and Jupiter.
- Examined how unique planetary characteristics influence atmospheric dynamics.
- Highlighted diverse behaviors, from Venus's super-rotating atmosphere to Jupiter's powerful storms.
- Provided insights into planetary climate systems, with implications for understanding exoplanet atmospheres.

EXTRACURRICULAR ACTIVITIES

Independent researcher/Learner, Institute of Geophysics, Chinese Academy of Sciences **Grade10-12**

- Researched on Late Devonian organic matter enrichment. Analyzed geochemical proxies, revealed how environmental changes connects to mass extinction.

Researched on Late Devonian organic matter enrichment **Grade10-12**

- Led a 3D cave mapping project in China, utilizing laser scanning and data processing to create accurate models in challenging underground settings.

Independent Researcher/learner/internship, Chinese Academy of Agricultural Sciences, Hebei Agricultural Base **Grade9-11**

- Conducted on-site research on maize photosynthetic efficiency. Results showed improvements in key efficiency indices across breeding generations.

Yellow House Captain, Beijing Haidian Kaiwen Academy Student Council **Grade11-12**

- Led events for 500+ participants; managed a 20-person team for sport days and talent shows, enhancing school spirit and unity.

International Genetically Engineered Machine (IGEM) **Grade11-12**

- Developed a plasmid for E. coli to repair esophageal cells, potentially reducing esophageal cancer incidence; findings detailed on a project website.

Creator & Developer, Chinese Herbal Medicine App **Grade9-12**

- Developed and published Chinese herbal medicine app "Shennongpu" on Apple Store, promoting traditional remedies to improve modern health and wellness.
- Provided available channels to purchase common medicines provided with reference to the Compendium of Materia Medica.
- Referred to the Yellow Emperor's Classic of Internal Medicine and other traditional Chinese medicine regulatory texts to sort out and provide seasonal health protection recommendations.

Fencer, Local fencing club athlete, KWA fencing team founder **Grade9-12**

- Trained professionally, and secured national and city-level gold medals, Founded school fencing team.

Piano, Double bass player, KWA orchestra, KWA Bunbun Band, Jazz band **Grade9-12**

- Played piano for 14 years, achieved ABRSM Grade 8 in Performance, Grade 5 in Theory, performed in school concerts and city-level events

Project leader, Upenn Chemistry Academy **Grade11**

- Developed a non-Newtonian toilet liquid to enhance restroom cleanliness and comfort by minimizing splash back, focusing on eco-friendly solutions.

Self-initiated Non-profit Websites **Grade**

• Launched websites on bullet recycling and earthquake safety, reaching 10,000 views, laying groundwork for future NPO initiatives in university

School Badminton Team Player **Grade9-11**

• Represented the school and played with other schools.

• 2023 Zong Yu Cup Beijing International Schools Competition: Mixed Doubles: 5th place

School Basketball Team Player **Grade9-11**

• Represented the school and played with other schools.

HONORS AND AWARDS

• Semi-Finalists in Northern Competition Area S.-T. Yau High School Science Award: Chemistry section Grade12

• Very High Commendation for Philosophy Category of the John Locke Institute 2024 Global Essay Prize Grade11

-My essay was shortlisted for the Philosophy Category, only 16.9% of candidates were selected

• National Silver BioOlympiad Initiative USA-China 2024 (USABO) Grade 11

• National Gold and Regional Top 10 Thirty-Eighth Annual AAPT PhysicsBowl Contest with the score 31 Grade11

• Ranked in the top twenty-five percent of contestants/Certificate of Distinction in Euclid Contest in the year 2024 Grade11

-79/100，Top 25%

• Global Silver Award British Astronomy and Astrophysics Olympiad (BAAO Senior）2023-2024 with the score 37 Grade11

• Global Gold Award 56th Annual UK Chemistry Olympiad (UKChO) with the score of 60/80 Grade 11

• Global Silver Award HOSA-Future Health Professionals (HOSA) Grade 10

• National Gold Award and Global Special Merit Award for my exceptional achievement in the Canadian Chemistry Contest (ccc) 22/25 Grade 11

• Global Bronze Award /National Silver Award 2023Canadian Chemistry Olympiad China 20% 2023

• Global Silver Award Global Future Space Scholars Meet (GFSSM) Grade 9 summer

• Global Brown Award China Thinks Big Grade9

• Global Bronze Award 2022 Canadian Chemistry Olympiad China 35% 2022/Grade9

SKILLS AND HOBBIES

Professional Skills:

Hobbies: • Taekwondo: 10 years of practice, Black Belt, bronze medal in Women's 55kg at 2023 Beijing Sports Assembly, third place in 2023 "Baxi Cup" Beijing Youth Taekwondo Grand Prix.

• Swimming: 12 years of practice, maintains weekly anaerobic training, second place in 100m Butterfly and third in 50m Freestyle at 2024 Beijing Youth Swimming Challenge.

•Golf: Weekly practice for 3 years, preparing for lifelong commitment.

•Fencing: Trained professionally for about 6 years, and secured national and city-level gold medals

•Double Bass: Played the double bass for almost 6 years

•Piano: Played piano for 14 years, achieved ABRSM Grade 8 in Performance, Grade 5 in Theory; performed in school concerts and city-level events.

LANGUAGE

English: Speak, Read, Write

Mandarin: First Language

German (Standard): Speak, Read, Write