

2019 中國化學會年會英文摘要範例說明

(Strongly recommend to use **Template** to complete your abstract)

Molecular Aesthetics

Bih-Yaw Jin,^{a,*} and Chia-Chin Tsou^b

^aDepartment of Chemistry, National Taiwan University, Taipei 106, Taiwan

^bNational Center for High-Performance Computing, Hsinchu 300, Taiwan

E-mail: byjin@ntu.edu.tw

Physical molecular models are useful research and educational tools to demonstrate the bonding between atoms and to highlight the three-dimensional nature of chemical structures.¹ Molecular Aesthetics, a new course for general education designed at National Taiwan University, plans to show ways in which traditional craft can draw inspiration from the molecular sciences and science can make use of art to become more intelligible and interesting by utilizing hands-on activities based on mathematical beading.² In Spring 2019, more than 70 interdisciplinary students from eleven different colleges enrolled in the class. In the beginning, students are introduced to the inexpensive three-dimensional physical models of buckyballs through mathematical beading with the so-called angle weave stitch. Students construct their own molecular models and learn the relevant scientific knowledge and history behind the models. At the end of the course, students will design and build their own bead sculptures, present the scientific or mathematical meaning behind their models, and display them in a special exhibition on campus. This course can not only enhance the students' comprehension in science, but also strengthen their hands-on experiences, presentation abilities, and cooperative skills through peer interactions. Finally, a questionnaire will be performed, analyzed and used to improve the course in the following years.



Fig. 1. Bead models of extended metal atom chains, schwarzite, and perovskite.

1. Chuang, C.; Jin, B.-Y.; Tsou, C.-C.; Tang, N. Y.-W.; Cheung, M. P. S.; Cuccia, L. A. *J. Chem. Edu.* **2012**, *89*, 414-416.
2. Fan, Y.-J.; Jin, B.-Y.; Tsou, C.-C. *Proceedings of Bridges: Mathematical Connections in Art, Music, and Science*, **2018**, 555-558.

All Characters: Times New Roman, Size 11, Capital, Center

Topic of Abstract
***Bold**

Name of Author(s)

***Bold and mark * for Presenting Author, or contestant who is postgraduate or undergraduate interested in attending the Best of the Best Prizes competition.**

***Use upper "a-z" as mark correspond to organization**
Organization(s)

***Use upper "a-z" as mark correspond to name of author**

Email

Content of Abstract

***If using any formula character, please check with symposium secretariat after submission.**

Figure(s) & Table(s)

***Present your Figure and Table by inserting JPG file**

Reference(s)

***Use "1~99" as mark at each reference**

***Bold for Year**

***Italic for name of journal and the volume.**

2.5 cm