

CHANG-YU CHANG 張昌祐

My research interest lies in the intersection of systems biology, microbial evolution and community ecology. I am interested in combining theory and experiment to study how microbial communities assemble and evolve.



EDUCATION

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2017
- **Ph.D. Candidate, Ecology and Evolutionary Biology**
Yale University 📍 New Haven, CT
 - Predicting microbial community assembly and function under selection
 - Advisor: Dr. Alvaro Sanchez
- 2017
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2015
- **M.S., Ecology and Evolutionary Biology**
National Taiwan University 📍 Taipei, Taiwan
 - Thesis: Near-infrared modulates burying behavior in burying beetles
 - Advisor: Sheng-Feng Shen
- 2015
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2011
- **B.S., Life Science**
National Taiwan University 📍 Taipei, Taiwan
 - Math and computational courses oriented
 - Presidential and Dean's Award (ranking top 5% in the class)



PUBLICATIONS

- 2021
- **Engineering complex communities by directed evolution (2021). Nature Ecology & Evolution**
<https://doi.org/10.1038/s41559-021-01457-5>
 - Chang-Yu Chang*, Jean C C Vila*, Madeline Bender, Richard Li, Madeleine C Mankowski, Molly Bassette, Julia Borden, Stefan Golfier, Paul Gerald L Sanchez, Rachel Waymack, Xinwen Zhu, Juan Diaz-Colunga, Sylvie Estrela, Maria Rebolleda-Gomez, Alvaro Sanchez
 - * contributed equally.
 - Coauthors include students from courses PBoC2019 and E&EB 729
- 2021
- **Directed Evolution of Microbial Communities (2021). Annu. Rev. Biophys.**
<https://doi.org/10.1146/annurev-biophys-101220-072829>
 - Alvaro Sanchez, Jean C C Vila, Chang-Yu Chang, Juan Diaz-Colunga, Sylvie Estrela, Maria Rebolleda-Gomez
- 2021
- **Functional attractors in microbial community assembly (2021). Cell Systems.**
<https://doi.org/10.1016/j.cels.2021.09.011>
 - Sylvie Estrela, Jean C C Vila, Nanxi Lu, Djordje Bajic, Maria Rebolleda-Gomez, Chang-Yu Chang, Joshua E. Goldford, Alicia Sanchez-Gorostiaga, Alvaro Sanchez



View this CV online with links at changyuchang.name

CONTACT INFO

✉ chang-yu.chang@yale.edu
🐦 [changyu_chang](https://twitter.com/changyu_chang)
🐙 [github](https://github.com)
🔗 changyuchang.name

For more information, please contact me via email.

This resume was made with the R package [pagedown](#).

The source code is available at github.com/Chang-Yu-Chang/cv.

Last updated on 2021-10-15.

2020 ● **Artificially selecting bacterial communities using propagule strategies (2020). Evolution**

<https://doi.org/10.1111/evo.14092>

- Chang-Yu Chang*, Melisa L Osborne*, Djordje Bajic, Alvaro Sanchez.
- * contributed equally.

2018 ● **Ecological effects of cellular computing in microbial populations (2018. Natural Computing**

<https://doi.org/10.1007/s11047-018-9708-8>

- Maia Baskerville*, Arielle Biro*, Mike Blazanin*, Chang-Yu Chang*, Amelia Hallworth*, Nicole Sonner*, Jean C C Vila*, Alvaro Sanchez
- * contributed equally.

FELLOWSHIPS, GRANTS, AND TRAVEL FUNDS

2020 | 2017 ● **Government Fellowship for Oversea Study**

Taiwan Ministry of Education

- \$126,000

2016 ● **Graduate Student Attending International Conference**

Taiwan Ministry of Education

- \$1,000

2015 | 2014 ● **College Student Research Scholarship**

Taiwan Ministry of Science and Technology

- \$1,200

TEACHING FELLOW EXPERIENCE

2020 ● **BIOL104: Ecology & Evolutionary Biology**

Yale University

📍 New Haven, CT

- Lecture TF

2019 ● **E&EB729: Microbial Ecology and Evolution**

Yale University

📍 New Haven, CT

- Course facilitator

2019 ● **PBoC2019: Physical Biology of the Cell course**

Marine Biological Laboratory

📍 Woods Hole, MA

- Course facilitator

2019 ● **EEB250/550: Biology Of Terrestrial Arthropods**

Yale University

📍 New Haven, CT

- Lecture TF

2019 ● **EEB251L/551L: Laboratory for Biology Of Terrestrial Arthropods**

Yale University

📍 New Haven, CT

- TF, organized field trips, and conducted demo experiments

- 2019 ● **EEB223L/523L: Laboratory for Evolution & Functional Traits**
Yale University 📍 New Haven, CT
• TF, organized field trips, and conducted demo experiments
- 2016 ● **LS3022: Biostatistics**
National Taiwan University 📍 Taipei, Taiwan
• TF and lectured basic R
- 2015 ● **LS1019: General Botany Lab**
National Taiwan University 📍 Taipei, Taiwan
• TF and lectured lab experiments




TALKS AND POSTERS

- 2021 ● **Workshop on Limits to Diversity Assembly, ICTP**
Trieste, Italy 📍 Virtual
• Invited talk
- 2020 ● **Microbial Sciences Institute SMAL talks**
Yale University 📍 Virtual
• Invited talk
- 2019 ● **The Graduate Research in Ecology, Behavior, and Evolution Annual Symposium (GREBE)**
Princeton University 📍 Princeton, NJ
• Contributed talk
- 2019 ● **Microbial Sciences Institute Retreat**
Yale University 📍 New Haven, CT
• Poster presentation
- 2019 ● **Yale EEB graduate student symposium**
Yale University 📍 New Haven, CT
• Best poster award
- 2018 ● **17th International Symposium on Microbial Ecology (ISME)**
📍 Leipzig, Germany
• Poster presentation
- 2017 ● **18th Congress of Animal Behavior and Ecology**
National Sun Yat-sen University 📍 Kaohsiung, Taiwan
• Winner Prize for research and oral presentation
- 2016 ● **15th Congress of the International Society for Behavioral Ecology**
University of Exeter 📍 Exeter, UK
• Oral Presentation (abstract reviewed)
- 2016 ● **Graduate student symposium**
College of Life Science, National Taiwan University 📍 Taipei, Taiwan
• Best poster award



SERVICES





2020
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2018

- **President, Yale Taiwanese Student Association**
Yale University  New Haven, CT
 - Organized recreational and holiday events for Taiwanese students
 - Facilitated connections among Taiwanese students across universities

2019

- **Organizer, Yale EEB Hutchinson speaker**
Yale University  New Haven, CT
 - Dr. Dolph Schluter (UBC) invited as the 2019 Hutchinson Speaker
 - Organized and modulated invited speaker talks, sessions, and meetings

REFERENCES

- **Dr. Alvaro Sanchez**
Ph.D. advisor  alvaro.sanchez@yale.edu
 - Associate Professor, Yale University
- **Dr. Maria Rebolledo-Gomez**
Ph.D. lab colleague  mreboll1@uci.edu
 - Assistant Professor, University of California, Irvine
- **Dr. David Vasseur**
Dissertation committee  david.vasseur@yale.edu
 - Professor, Yale University
- **Dr. Sheng-Feng Shen**
M.S. advisor  shensf@sinica.edu.tw
 - Research Fellow (Professor), Academia Sinica in Taiwan