

# 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

- 2022 ● **Ph.D.**, Ecology and Evolutionary Biology, Yale University  
Advisor: Dr. Alvaro Sanchez
- 2017 ● **M.S.**, Ecology and Evolutionary Biology, National Taiwan University  
Advisor: Dr. Sheng-Feng Shen
- 2015 ● **B.S.**, Life Science, National Taiwan University  
Presidential and Dean's Award (ranking top 5% in the class) GPA: 4.1/4.3



## PUBLICATIONS

\* these authors contributed equally

- 2022 ● Emergent coexistence in multispecies microbial communities  
[bioRxiv](#)  
Chang-Yu Chang, Djordje Bajic, Sylvie Estrela, Jean Vila, Alvaro Sanchez
- 2022 ● Top-down and bottom-up cohesiveness in microbial community coalescence  
[PNAS](#)  
Juan Diaz-Colunga\*, Nanxi Lu\*, Alicia Sanchez-Gorostiaga\*, Chang-Yu Chang, Helen Cai, Joshua Goldford, Mikhail Tikhonov, Alvaro Sanchez
- 2021 ● Functional attractors in microbial community assembly  
[Cell Systems](#)  
Sylvie Estrela, Jean C C Vila, Nanxi Lu, Djordje Bajic, Maria Rebolleda-Gomez, Chang-Yu Chang, Joshua E. Goldford, Alicia Sanchez-Gorostiaga, Alvaro Sanchez
- 2021 ● Engineering complex communities by directed evolution  
[Nature Ecology & Evolution](#)  
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
- 2021 ● Directed Evolution of Microbial Communities  
[Annual Review of Biophysics](#)  
Alvaro Sanchez, Jean C C Vila, Chang-Yu Chang, Juan Diaz-Colunga, Sylvie Estrela, Maria Rebolleda-Gomez
- 2020 ● Artificially selecting bacterial communities using propagule strategies  
[Evolution](#)  
Chang-Yu Chang\*, Melisa L Osborne\*, Djordje Bajic, Alvaro Sanchez.
- 2018 ● Ecological effects of cellular computing in microbial populations  
[Natural Computing](#)  
Maia Baskerville\*, Arielle Biro\*, Mike Blazanin\*, Chang-Yu Chang\*, Amelia Hallworth\*, Nicole Sonner\*, Jean C C Vila\*, Alvaro Sanchez



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## CONTACT INFO

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For more information, please  
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The source code is available at  
[github.com/Chang-Yu-Chang/cv](https://github.com/Chang-Yu-Chang/cv).

Last updated on 2022-05-24.

## GRANTS, FELLOWSHIPS, AND AWARDS

- 2022-2024 ● Data Driven Discovery Postdoctoral Fellow (\$27,500)  
University of Pennsylvania
- 2017-2020 ● Government Fellowship for Oversea Study (\$126,000)  
Taiwan Ministry of Education

## TEACHING FELLOW EXPERIENCE

- 2020 ● BIOL104: Ecology & Evolutionary Biology, Yale University
- 2019 ● E&EB729: Microbial Ecology and Evolution, Yale University
- 2019 ● PBoC2019: Physical Biology of the Cell course, Marine Biological Laboratory
- 2019 ● EEB250/550: Biology Of Terrestrial Arthropods, Yale University
- 2019 ● EEB251L/551L: Laboratory for Biology Of Terrestrial Arthropods, Yale University
- 2019 ● EEB223L/523L: Laboratory for Evolution & Functional Traits, Yale University
- 2016 ● LS3022: Biostatistics, National Taiwan University
- 2015 ● LS1019: General Botany Lab, National Taiwan University

## INVITED SEMINARS

- 2021 Nov ● Princeton University. Lab-invited seminar
- 2021 Nov ● University of Pennsylvania. Lab-invited seminar
- 2021 Jan ● Workshop on Limits to Diversity Assembly, ICTP
- 2020 Oct ● Microbial Sciences Institute SMAL talks, Yale University

## CONTRIBUTED PRESENTATIONS

- 2019 May ● The Graduate Research in Ecology, Behavior, and Evolution Annual Symposium (GREBE). Contributed talk
- 2019 May ● Yale EEB graduate student symposium. Best contributed poster
- 2019 Aug ● Microbial Sciences Institute Retreat, Yale University. Contributed poster
- 2018 Aug ● 17th International Symposium on Microbial Ecology (ISME). Contributed poster
- 2017 Jan ● 18th Congress of Animal Behavior and Ecology. Winner Prize for research and oral presentation

- 2016 June ● Graduate student symposium, National Taiwan University. Best contributed poster
- 2016 Aug ● 15th Congress of the International Society for Behavioral Ecology (ISBE). Contributed talk



## SERVICES

- 2018-2020 ● President, Yale Taiwanese Student Association  
Organized recreational and holiday events for Taiwanese students  
Facilitated connections among Taiwanese students across universities
- 2019 ● Organizer, Yale EEB Hutchinson speaker  
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  
Principal investigator, Centro Nacional de Biotecnologia, Spain  
📍 [alvaro.sanchez@cnb.csic.es](mailto:alvaro.sanchez@cnb.csic.es)
- Dr. Maria Rebolleda-Gomez  
Dissertation committee  
Assistant Professor, University of California, Irvine  
📍 [mrebol1@uci.edu](mailto:mrebol1@uci.edu)
- Dr. David Vasseur  
Dissertation committee  
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📍 [david.vasseur@yale.edu](mailto:david.vasseur@yale.edu)
- Dr. Sheng-Feng Shen  
M.S. advisor  
Research Fellow (Professor), Academia Sinica, Taiwan  
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