Hua-Ting YAO

0000-0002-1720-5737
htyao@tbi.univie.ac.at
htyao.gitlab.io

Experience

Since 2025 ***University assistant (post-doc)***
TBI, University of Vienna, Vienna, Austria

2022–2025 ***Post-doc in Bioinformatics***
TBI, University of Vienna, Vienna, Austria

2019–2021 ***Joint Ph.D. candidate in Computer Science***
Local Decomposition In RNA Structural Design
AMIBio, LIX, École Polytechnique, Palaiseau, France
School of Computer Science, McGill University, Montreal, Canada
Co-supervised by Yann Ponty & Jérôme Waldispühl

2017–2018 ***M2 in Bioinformatics (AMI2B)***
University of Paris-Saclay, Orsay, France

2014–2018 ***Cycle d'ingénieur***
École Polytechnique, Palaiseau, France
Bioinformatics, Computer Science, Math Application

2012–2014 ***Classe préparatoire aux grandes écoles (CPGE)***
Lycée Louis le Grand, Paris, France.
Mathematic, Physics, Computer Science

Selected Publication (Journal)

2026 Walter, J., Sidl, L., ..., Yao H-T, Mörl, M. & Wolfinger, M. T. Rational design of mechanically active RNAs: de novo engineering of functional exoribonuclease-resistant RNAs. Nucleic Acids Research. doi:10.1093/nar/gkag473

2026 Yao H-T, Chauve, C., Regnier, M., & Ponty, Y. Undesignable rna motifs and combinatorial consequence. Journal of Mathematical Biology. doi:10.1007/s00285-026-02358-6

2025 Sidl, L., Faissner, M., ..., Yao H-T, Hofacker I. L., & Stadler, P. F. Computational complexity, algorithmic scope, and evolution. Journal of Physics: Complexity. doi:10.1088/2632-072X/adb928

2024 von Löhneysen, S., Spicher, T., Varenyk, Y., Yao H-T, Lorenz, R., Hofacker, I., & Stadler, P. F. Phylogenetic and Chemical Probing Information as Soft Constraints in RNA Secondary Structure Prediction. Journal of Computational Biology. doi:10.1089/cmb.2024.0519

2024 Yao H-T, Marchand, B., Berkemer, S. J., Ponty, Y., & Will, S. Infrared: a declarative tree decomposition-powered framework for bioinformatics. Algorithms for Molecular Biology. doi:10.1186/s13015-024-00258-2

2023 Yao H-T, Lorenz, R., Hofacker, I. L., & Stadler, P. F. Mono-valent salt corrections for RNA secondary structures in the ViennaRNA package. Algorithms for Molecular Biology. doi:10.1186/s13015-023-00236-0

Selected Publication (Conference)

2025 Skibinski, ..., Yao H-T & Stadler, P. F. Integrating High-Throughput RNA-RNA Interaction Data into RNA Secondary Structure Prediction. ISBRA'25. doi:10.1007/978-981-95-0695-8_13

2025 Boury, T., Sidl, L., Hofacker, I. L., Ponty, Y, & Yao H-T. Old dog, new tricks: Exact seeding strategy improves RNA design performances. RECOMB'25. doi:10.1007/978-3-031-90252-9_9

2021 Yao H-T, Waldispühl, J., Ponty, Y., & Will, S. Taming Disruptive Base Pairs to Reconcile Positive and Negative Structural Design of RNA. RECOMB'21.

2020 Sarrazin-Gendron, R., Yao H-T, Reinharz, V., Oliver, C. G., Ponty, Y., & Waldispühl, J. Stochastic Sampling of Structural Contexts Improves the Scalability and Accuracy of RNA 3D Modules Identification. RECOMB'20. doi:10.1007/978-3-030-45257-5_12

Book Chapter

2024 Waldl, M.†, Yao H-T† & Hofacker, I. Sequence design for RNA-RNA interactions. doi:10.1007/978-1-0716-4079-1_1

2022 Yao H-T, Ponty, Y., & Will, S. Developing complex RNA design applications in the Infrared framework. doi:10.1007/978-1-0716-3519-3_12

2020 Ponty, Y., Hammer, S., Yao H-T, & Will, S. Advanced design of structural RNAs using RNARedPrint. doi:10.1007/978-1-0716-1307-8_1

Conference Talks

Nov 2026 BIOINFO/GIW ISCB-Asia 2026, Seoul

Aug 2021 RECOMB'21, Online

Sep 2019 ACM-BCB'19 (bioinformatics conference), Niagara Falls, New York

Seminar Talks

Dec 2025 RNA research center seminar, Seoul

Dec 2025 TD "RNA design", AlgoSB'25, Marseille

Jul 2025 Bioinformatics Leipzig seminar, Leipzig

Sep 2024 RNA research center seminar, Seoul

Oct 2022 18th Herbstseminar der Bioinformatik, Doubice

Sep 2022 Rational Design of RiboNucleic Acids, Dagstuhl Seminar 22381

since 2022 Computational Approaches to RNA Structure and Function'22 24 26, Benasque

Mar 2021 ALÉA2021 (theoretical computer science, discrete mathematics seminar), Online

since 2020 TBI Winterseminar'20 21 22 23, Bled

Posters

2026 BIOINFO/GIW ISCB-Asia 2026, Seoul

2025 RECOMB'25, Seoul

2024 RNAMedI symposium, Montréal, Québec

Sep 2019 RiboClub'19, Sherbrooke, Québec

(Co-)Supervision Experience

Ph.D. K. Gutenbrunner (2025–), D. Skibinski (2025–), L. Sidl (2023–)

Master S. Strolz (2026–), A. Gramosis (2026–), P. Wolf (2026–), P. Koller (2025–), P. Holotova (2025–), K. Gacevic (2025–2026), J. Tils (2025–2026)

Intern S. Gardelle (2025), S. Pylypchuk (2025), A. Savova (2025)

Teaching Experience

2026 Lecturer, 2026W 053530 Statistical methods in bioinformatics, University of Vienna

2025 Lecturer (30h), 2025S 270034 Practical Course Bioinformatics of Nucleic Acids, University of Vienna

2025 Lecturer (5h), 2025S 270056 Algorithms and program development for biological chemistry, University of Vienna

since 2023 Supervisor, 053531 Master Bioinformatic sofware project, University of Vienna

2020 Teaching assistant (36h), *INF442 Algorithms data analysis in C++*, École Polytechnique

2020 Teaching assistant (24h), *CSE103 Introduction to Algorithms*, École Polytechnique

2019 Teaching assistant (80h), *COMP251 Algorithms and Data Structures*, McGill University

Contributions to the scientific community

since 2025 Organization team of TBI Winterseminar in Bled

since 2022 Review for journals Bioinformatics, DMTCS, RNA, NARGAB, ALMOB, Nat. Comm., Nature

since 2020 Review for conferences RECOMB, ISMB, IJCAI, CMSB

Softwares

since 2024 VARNAjs, javascript library for RNA visualization

since 2022 Contribute to ViennaRNA, library for RNA secondary structure study

since 2021 VARNA api, a python helper package for RNA visualization tool VARNA

since 2020 RNAPOND, RNA negative design tool using positive design approach

since 2020 Infrared, A declarative framework for Bioinformatics.

since 2019 BayesPairing2, Tool to identify RNA 3D motifs.

Awards and Honors

Jun 2022 IP Paris Best Thesis 2022 related to the IDIA department — IDIA accessits

References

* Peter F. Stadler -`studla@bioinf.uni-leipzig.de`
  Professor – University Leipzig – Faculty of Mathematics and Computer Science
* Ivo Hofacker – `ivo@tbi.univie.ac.at`
  Professor – University of Vienna – Institute for Theoretical Chemistry
* Ronny Lorenz – `ronny@tbi.univie.ac.at`
  Research faculty – University of Vienna – Institute for Theoretical Chemistry
* Yann Ponty – `yann.ponty@lix.polytechnique.fr`
  Research faculty – École Polytechnique – Computer Science Department
* Jérôme Waldispühl -`jeromew@cs.mcgill.ca`
  Professor – McGill University – School of Computer Science