

Hua-Ting YAO

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EXPERIENCE

- Since 2022 ***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

PUBLICATION

- 2024 [Yao H-T](#), Marchand, B., Berkemer, S. J., Ponty, Y., & Will, S. Infrared: a declarative tree decomposition-powered framework for bioinformatics. (Accepted by Algorithms for Molecular Biology)
- 2023 von Löhneysen, S., Spicher, T., Varenky, Y., [Yao H-T](#), Lorenz, R., Hofacker, I., & Stadler, P. F. Phylogenetic Information as Soft Constraints in RNA Secondary Structure Prediction. In International Symposium on Bioinformatics Research and Applications (pp. 267-279). Singapore: Springer Nature Singapore.
- 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, 18(1), 8.
- 2021 [Yao H-T](#), Waldispühl, J., Ponty, Y., & Will, S. Taming Disruptive Base Pairs to Reconcile Positive and Negative Structural Design of RNA. RECOMB 2021 - 25th International Conference on Research in Computational Molecular Biology.
- 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 2020 - 24th Annual International Conference on Research in Computational Molecular Biology.
- 2019 [Yao H-T](#), Chauve, C., Regnier, M., & Ponty, Y. Exponentially few RNA structures are designable. ACM-BCB 2019 - 10th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics, 289–298.
- 2017 Feijiao P, [Yao H-T](#) et al. *MentaLiST - A fast MLST caller for large MLST schemes*. Microbial Genomics. doi:10.1099/mgen.0.000146

BOOK CHAPTER

- 2022 [Yao H-T](#), Ponty, Y., & Will, S. Developing complex RNA design applications in the Infrared framework.

- 2020 Ponty, Y., Hammer, S., Yao H-T, & Will, S. Advanced design of structural RNAs using RNARedPrint. In E. Picardi (Ed.), RNA Bioinformatics.

CONFERENCE TALKS

- Aug 2021 RECOMB'21, Online
Sep 2019 ACM-BCB'19 (bioinformatics conference), Niagara Falls, New York

SEMINAR TALKS

- Oct 2022 18th Herbstseminar der Bioinformatik, Doubice
Sep 2022 Rational Design of RiboNucleic Acids, Dagstuhl Seminar 22381
Aug 2022 Computational Approaches to RNA Structure and Function, Benasque
Mar 2021 ALÉA2021 (theoretical computer science, discrete mathematics seminar), Online
since 2020 TBI Winterseminar'20 21 22 23, Bled

POSTERS

- Sep 2019 RiboClub'19, Sherbrooke, Québec

TEACHING EXPERIENCE

- Winter 2023 Supervisor, 2023W 053531-1 Master Bioinformatic software 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
Fall 2019 Teaching assistant (80h), *COMP251 Algorithms and Data Structures*, McGill University

CONTRIBUTIONS TO THE SCIENTIFIC COMMUNITY

- since 2022 Review for journals Bioinformatics, DMTCS, RNA
since 2020 Review for conferences RECOMB, ISMB

SOFTWARES

- 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

SKILLS

- Languages Mandarin (native), English (fluent), French (fluent), Korean (basic)
Programming C++, Python3, OCaml, Java, R
Web Dev HTML, CSS, php, SQL, JavaScript, Django

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