Hua-Ting YAO

Born August 26th, 1994
From Taipei, Taiwan
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Ph.D. candidate in Computer Science mainly working on RNA Design problem with decompositions and structural motifs. The project consists of designable secondary structure enumeration and RNA Design tool development. The defence will be held at 15th December. My research interest is to apply computer science or mathematics methods on biological problems.

EXPERIENCE

Since 2019 — ***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

2018 — **Visiting intern**
Gene selection with network based a priori
BCI team at CEA Grenoble, France
Supervised by Laurent Guyon

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

2017 — **Visiting Intern**
Model-based clustering on Tuberculosis strains during an outbreak
Simom Fraser University, Vancouver, Canada
Co-supervised by Cedric Chauve & Leonid Chindelevitch

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

Until 2012 — Secondary education in Taiwan.

PUBLICATION

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

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 — Feijao P, Yao H-T et al. *MentaLiST - A fast MLST caller for large MLST schemes.* Microbial Genomics. doi:10.1099/mgen.0.000146

TALKS

Aug 2021 — RECOMB'21, Online

Mar 2021	ALÉA2021 (theoretical computer science, discrete mathematics seminar), Online
Feb 2021	TBI Winterseminar'21, Online
Feb 2020	TBI Winterseminar'20, Bled
Sep 2019	ACM-BCB'19 (bioinformatics conference), Niagara Falls, New York
Nov 2018	International Conference on Systems Biology, Lyon (**Contributed**)

Posters

Sep 2019	RiboClub'19, Sherbrooke, Québec

Teaching Experience

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

2020	Review for RECOMB'21
since 2020	Development of RNAPOND, RNA negative design tool using positive design approach
since 2020	Maintenance & deployment of Infrared, A generic C++/Python hybrid library for FPT Boltzmann sampling.
since 2019	Development of BayesPairing 2, RNA 3D modules identification in sequence and alignments

Awards and Honors

Jan 2018	Project competition Meet-U 2018 (on protein docking) — First Prize
Jan 2011	Taiwan International Science Fair — Fourth Prize in zoology.

Skills

Languages	Mandarin (native), English (fluent), French (fluent), Korean (basic), Japanese (basic)
Programming	C++, OCaml, Python3, Java, R, Julia
Web Dev	HTML, CSS, php, SQL, JavaScript, AngularJS, Django, Ocsigen
Software	Coq, Scilab
Other	Git, Linux, LaTeX

References

* 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

* Laurent Guyon – `laurent.guyon@cea.fr`
  Research faculty – CEA – Laboratory of Cancer and Infection

* Cedric Chauve – `cedric.chauve@sfu.ca`
  Professor – Simon Fraser University – Department of Mathematics