YAO-KUAN WANG

CONTACT

Website:
https://yao-kuan.github.io

Email:
ykwang1993@gmail.com

TECHNICAL SKILLS

Operating system:
- Linux

Programming:
- C
- IDL
- Python
- LabVIEW
- and Bash

Image processing:
- OpenCV
- Scikit-image (Python package)
- ImageJ

Machine learning:
- Scikit-learn (Python package)
- Keras (Python package)

Simulation:
- Molecular dynamics

LANGUAGES

Mandarin: native speaker
English: good working knowledge

REFERENCES

References available on request.

RESEARCH INTERESTS

I had worked in a biophysics lab which is highly interdisciplinary between **physics** and **bacteria** for 4 years during my bachelor's and master's degree. I explored the diversities of bacteria by both numerical simulations and microscope experiments. Thus, besides from the theoretical simulation, I am also capable of the skills of image processing and microscope operation. I would like to advance my knowledge on **applying computer vision algorithms to medical imaging analysis** as a PhD student with an expert.

EDUCATION

2016-2018

MASTER OF SCIENCE IN PHYSICS
Department of Physics, National Central University
Jhongli, Taoyuan, Taiwan

Supervisor: Lo, Chien-Jung
Thesis: Spiral-coil Formation in Self-propelled Chain System

2012-2016

BACHELOR OF SCIENCE IN JOINT SCIENCE PROGRAM (MAJOR IN PHYSICS)
College of Science, National Central University
Jhongli, Taoyuan, Taiwan

Supervisor: Lo, Chien-Jung

Subjects Covered:
- Digital image processing
- Advanced image processing (ML approaches)
- Computational physics (numerical analysis)
- Biophysics
- Advanced computer programming (object oriented programming in IDL language)

PUBLICATIONS

[3] "Comparison of Escherichia coli surface attachment methods for single-cell, in vivo microscopy",
Yao-Kuan Wang, Ekaterina Krasnopeeva, Ssu-Yuan Lin, Fan Bai, Teuta Pilizota, Chien-Jung Lo,
bioRxiv preprint, 2019 (also submitted to Scientific Report). doi: 10.1101/648840

[2] "Formation of spiral coils among self-propelled chains",
Yao-Kuan Wang, Chien-Jung Lo, and Wei-Chang Lo
Phys. Rev. E, 2018. doi:10.1103/PhysRevE.98.062613

[1] Inactivation of ferric uptake regulator (Fur) attenuates Helicobacter pylori J99 motility by disturbing the flagellar motor switch and autoinducer‑2 production
Ai-Yun Lee, Cheng-Yen Kao, **Yao-Kuan Wang**, Ssu-Yuan Lin, Tze-Ying Lai, Bor-Shyang Sheu, Chien-Jung Lo, Jiunn-Jong Wu
Helicobacter, 2017. doi:10.1111/hel.12388

AWARDS

2017 and 2018
Honorable mention in poster competition (10% out of the total posters accepted) for the annual meeting of the Physical Society of Taiwan
Poster: Spiral-coil formation in self-propelled chain system

TEACHING EXPERIENCES

Teaching assistant (undergraduate)
National Central University
- Experimental Physics - 4 semesters
- General Physics - 1 semester