YIWEI ZHANG

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EDUCATION

University of Luxembourg *2020-2023(expected)*
Doctoral Researcher in Physics

DAMTP, Cambridge University *07.2020-10.2020*
Visiting Student

ICFP, ENS Paris *2019 - 2020*
Master II in Physics

ENS Paris *2018 - 2019*
Master I in Chemistry

ENS Paris *2017 - 2020*
Diplome de l'ENS

Xiamen University *2013 - 2017*
B.Sc in Chemistry

RESEARCH EXPERIENCE

Stochastic Thermodynamics of active matter systems Supervisor: Dr. Étienne Fodor
By means of stochastic processes, including SDE and numerical modelling, the non-equilibrium behaviours of acive matter systems are investigated. Currently, I study the density wave formation in self-driven deformable particle systems.

Deep learning interpretability Supervisor: Dr. Maria Rodriguez Martinez at IBM Research Zurich
Studied the state of the art of deep learning interpretability methods, with corresponding hands-on experiences of those methods and application to DeepBind, a deep learning model prediction protein-binding DNA sites.

Theoretical studies on the reorientation dynamics of water molecules in charged interfaces Supervisor: Prof. Damien Laage at ENS Paris
Using trajectory data from classical molecular dynamic simulation to study the influence of interfacial potential on water dynamics and electric field distribution in a cell.

Synthesis and reactivity studies on FLP compounds Supervisor: Prof. Hongping Zhu at Xiamen University
Organometallic synthesis of Ge-B FLP compounds and reactivity probes with S, Se, Te, etc.

PROFESSIONAL EXPERIENCE

To be added...

Visiting Researcher *15.08.2021 - 29.09.2021*
With Dr. Yongfeng Zhao in Soochow University, China.

International Summer School: Fundamental Problems in Statistical Physics XV *11.07.2021 - 24.07.2021*

Cargèse Summer School and Workshop: Glassy Systems and Inter-Disciplinary Applications *28.06.2021 - 07.07.2021*

Correlation One Europe Regional Terminal *08.03.2021 - 15.03.2021*
As a selected candidate in datathon, I am invited to participate this coding competition. The aim is to code my tower defense strategies and compete with other players using algorithms.

Citadel Europe Regional Datathon *15.02.2021 - 22.02.2021*
One of the selected 80 candidates from hundreds of applications. Using provided CoVid-19 pandemic data, I worked with my teammates to evaluate the effect of certain measures in European countries on CoVid-19

TECHNICAL STRENGTHS

Programming	C, C++, Fortran, Python, Shell, Matlab
Software & Tools	MS Office, LaTeX, Mathematica
Analytical Computation	
Knowledge about PDEs and their numerical treatment	
Probability and Stochastic Analysis	

EXTRACURRICULUM ACHIEVEMENTS

Coursera course completed:	Portfolio and Risk Management, Deep Learning
Udemy course completed:	The Project Management Course: Beginner to Project Manager
EDX course completed: MATLABx:	Einführung in MATLAB
Ongoing courses:	Machine Learning for Data Science and Analytics (EDX)

LANGUAGES

Mandarin, Mother tongue

English, C2

French, B2

German, B2

PUBLICATIONS

[1] "Advances for the Ruthenium Complexes-Based Homogeneous Catalytic Hydrogenation of Oxalates to Ethylene Glycol". In: *Chinese Journal of Organic Chemistry* 37.9, 2275 (2017), p. 2275. DOI: 10.6023/cjoc201703021. URL: http://sioc-journal.cn/Jwk_yjhx/EN/abstract/article_346097.shtml.

[2] Yiwei Zhang and Étienne Fodor. "Pulsating Active Matter(in prep)". In: (2022).

[3] Yiwei Zhang et al. "Water dynamics at electrified graphene interfaces: a jump model perspective". In: *Phys. Chem. Chem. Phys.* 22 (19 2020), pp. 10581–10591. DOI: 10.1039/D0CP00359J. URL: http://dx.doi.org/10.1039/D0CP00359J.

[4] Yiwei Zhang et al. "Water Structure, Dynamics, and Sum-Frequency Generation Spectra at Electrified Graphene Interfaces". In: *The Journal of Physical Chemistry Letters* 11.3 (2020), pp. 624–631. DOI: 10.1021/acs.jpclett.9b02924.