



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 6322

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at Dipartimento di Fisica

Scientist- in - charge: Prof. Genoni Marco Giovanni

[Name and surname]

**CURRICULUM VITAE**

## PERSONAL INFORMATION

Surname	GONG
Name	HONG

## PRESENT OCCUPATION

Appointment	Structure
Postdoctoral researcher	University of Science and Technology of China

## EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Physical Chemistry	University of Science and Technology of China	2022
Specialization	quantum dissipative dynamics, quantum thermodynamics, quantum foundations, quantum statistics.	University of Science and Technology of China	
PhD	Physical Chemistry	University of Science and Technology of China	2022
Master			
Degree of medical specialization			
Degree of European specialization			
Other			



## REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

## FOREIGN LANGUAGES

Languages	level of knowledge
English	Independent user

## AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
Annually in 2018 -2022	First Prize of Academic Scholarship, University of Science and Technology.
2019	Second prize of National Science Experiment Exhibition and Performances, Ministry of Science and Technology of the People's Republic of China.
2019	First Prize of Scientific Experiment Exhibition and Performance Activity, Bureau of Science Communication Chinese Academy of Sciences.
2019	Excellent Teaching Assistant, University of Science and Technology.
2018	University of Science and Technology of China - Suzhou Industrial Park Scholarship.
Annually in 2013 - 2017	Outstanding Undergraduate Scholarship, Shanxi University.
2015	Third prize of National Undergraduate Electronic Design Contest, Shanxi University
2015	Excellence Award of China Undergraduate Mathematical Contest in Modeling in Shanxi province division, China Society for Industrial and Applied Mathematics.
2014	National Encouragement Scholarship, Shanxi University.
2014	Merit Student, Shanxi University.

## TRAINING OR RESEARCH ACTIVITY

description of activity
[1] 01/09/2019 - 23/06/2022, PhD in Physical Chemistry, Department of Chemical Physics, University of Science and Technology of China, Hefei, Anhui Province, China. Title of thesis: Unified Theories of Equilibrium/Nonequilibrium Thermodynamics and Quantum Dissipation for Open Systems.
[2] 01/09/2017 - 23/06/2019, MSc studies in Department of Chemical Physics, University of Science and Technology of China, <i>Studies directly transferred to PhD programme.</i>
[3] 01/09/2013 -01/07/2017, BSc in Physics, National Basic Science Talent Training Base for Physics, Shanxi University, Taiyuan, Shanxi Province, China.
[4] 09/2019 - 12/2019, University of Science and Technology of China, Teaching assistant of Functions of Complex Variables to undergraduate students
[5] 09/2018 - 01/2019, University of Science and Technology of China, Teaching assistant of Physical Chemistry to undergraduate students



## PROJECT ACTIVITY

Year	Project
2022 -	Nonequilibrium fermionic and bosonic dissipation theory, Thermodynamic uncertainty relation, and Quantum fluctuation theorems, Quantum control.
2021 - 2022	Nonequilibrium work distribution in system-bath mixing processes
2018 - 2020	Equilibrium and transient thermodynamics: a unified dissipation-space approach
2018 - 2020	Thermodynamic free-energy spectrum theory for open quantum systems
2017 - 2018	Quantum entanglement of parallel-coupled double quantum dots: a theoretical study using the Hierarchical-equations-of-motion-approach
2016 - 2017	Designs of PID Servo Control and its Application in Laser-to-cavity Frequency Locking

## PATENTS

Patent

## CONGRESSES AND SEMINARS

Date	Title	Place
05/2021	The 13th May 4th Youth Academic Exchange Conference of Suzhou Institute of Nano-Tech and Nano-Bionics and University of Science and Technology	Suzhou, China
06/2023	The 33rd Chinese Chemical Society Congress	Qingdao, China
07/2022	International Workshop on Real-Time Simulation of Electron and Nucleus Dynamics and Spectra	Qingdao, China
10/2021	The 14th national conference of Quantum Chemistry	Shanghai, China
04/2021	The 32nd Chinese Chemical Society Congress	Zhuhai, China
01/2019	International Symposium on Nonlinear Spectroscopy	Hefei, China
12/2018	Symposium on Computational Statistical Mechanics of Complex Systems	Hefei, China
07/2018	The 1st International Conference on Machine Learning and Physics	Beijing, China

## PUBLICATIONS

Books
[title, place, publishing house, year ...]

Articles in reviews
[1] Hong Gong, Yao Wang, Xiao Zheng, Rui-Xue Xu and YiJing Yan. 2022. "Nonequilibrium Work Distributions in Quantum Impurity System-bath Mixing Processes." The Journal of Chemical Physics 157(5): 054109.
[2] Hong Gong, Yao Wang, Hou-Dao Zhang, Rui-Xue Xu, Xiao Zheng and YiJing Yan. 2020. "Thermodynamic free-energy spectrum theory for open quantum systems." The Journal of Chemical Physics 153(21): 214115.



[3] Hong Gong, Yao Wang, Hou-Dao Zhang, Qin Qiao, Rui-Xue Xu, Xiao Zheng and YiJing Yan. 2020. "Equilibrium and transient thermodynamics: A unified dissipaton-space approach." The Journal of Chemical Physics 153(15): 154111.
[4] Hong Gong, Arif Ullah, Lv-Zhou Ye, Xiao Zheng and YiJing Yan. 2018. "Quantum Entanglement of Parallel-Coupled Double Quantum Dots: a Theoretical Study Using the Hierarchical Equations of Motion Approach." The Chinese Journal of Chemical Physics 31, 510-516.
[5] Xinhai Tong, Hong Gong, Yao Wang, Rui-Xue Xu and YiJing Yan. 2023. "Multimode Brownian oscillators: [6] Exact solutions to heat transport." The Journal of Chemical Physics 159(2): 024117.
[7] Xiangyang Li, Hong Gong, Qingfeng Zhuang, Bing Wang, Xiao Zheng, and Jinlong Yang. 2021. "Reaction on a Rink: Kondo-Enhanced Heterogeneous Single-Atom Catalysis." The Journal of Physical Chemistry C 125(39), 21488-21495.
[8] Yu Su, ZiFan Zhu, Hong Gong, Yao Wang, Rui-Xue Xu and YiJing Yan. 2021. "Temperature Dependence of the Subdivision Potential in Nano-thermodynamics." arXiv:2112.01185.
[9] Hou-Dao Zhang, Lei Cui, Hong Gong, Rui-Xue Xu, Xiao Zheng and YiJing Yan. 2020. "Hierarchical Equations of Motion Method Based on Fano Spectrum Decomposition for Low Temperature Environments." The Journal of Chemical Physics 159(2): 024117.

Congress proceedings
[1] H. Gong, Y. Wang, R. X. Xu, X. Zheng and Y. J. Yan. Equilibrium and nonequilibrium quantum mixing processes. The 33rd Chinese Chemical Society Congress, Qingdao, China, 06/2023.
[2] H. Gong, Y. Wang, H. D. Zhang, R. X. Xu, X. Zheng and Y. J. Yan. The <i>dissipaton-equation-of-motion</i> approach in the thermodynamics of open quantum systems. The 14th national conference of Quantum Chemistry, Shanghai, China, 10/2021.
[3] H. Gong, Y. Wang, H. D. Zhang, R. X. Xu, X. Zheng and Y. J. Yan. Dissipaton-equation-of-motion approach to quantum thermodynamics. The 13th May 4th Youth Academic Exchange Conference of Suzhou Institute of Nano-Tech and Nano-Bionics and University of Science and Technology, Suzhou, China, 05/2021. & The 32rd Chinese Chemical Society Congress, Zhuhai, China, 04/2021.

#### OTHER INFORMATION

Research Skills include: [1] Programming Languages: Fortran, C++, Python; [2] Operating System: Linux, Windows; [3] Softwares: Origin, Matlab, Mathematica, Microsoft Office, Latex, etc.
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Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: \_\_\_ Hefei, Anhui Province, China. \_\_\_\_, \_\_\_ 24/01/2024\_\_\_\_\_