



# Zhengyangguang Gong

Lehrer-Wirth-Straße 25, 81829 München

Mobile: (49) 176 32996370

Email: [lgong@usm.lmu.de](mailto:lgong@usm.lmu.de)

Born on 15/05/1997

## EDUCATION

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<b>Hefei No.1 Senior High School</b>	<i>September 2012 – May 2015</i>
<b>University of Hong Kong, HK</b> Bachelor in Science degree Major in Physics; Minor in Mathematics and Astronomy Graduate with First Class Honor	<i>September 2015 – May 2019</i>
<b>Ludwig-Maximilian University of Munich</b> Exchange through HKU World Wide program	<i>March 2018 – July 2018</i>
<b>Ludwig-Maximilian University of Munich</b> Master in Astrophysics Graduate with the grade 1.24	<i>October 2019 – December 2021</i>
<b>Ludwig-Maximilian University of Munich</b> PhD student in Astronomy Supervisor: Prof. Dr. Ralf Bender; Dr. Stella Seitz	<i>January 2022 – present</i>

## HONORS AND AWARDS

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<b>SIST LMU Study Scholarship</b> Funded by the Federal States of Bavaria for international students	<i>2020</i>
<b>Lee Shau Kee Scholarships for Student Enrichment</b> The scholarships provide financial support for outgoing exchange students based on academic merit	<i>2018</i>
<b>University Physics Competition (Silver Medal)</b> An international contest for undergraduate students, analyzing a real-world scenario using the principles of physics, and writing a formal paper describing their work.	<i>2017</i>
<b>Simon Marais Mathematics Competition (Rank 9<sup>th</sup> for pair participants)</b>	<i>2017</i>

Undergraduate mathematics competition Asia-Pacific.

**Lam Chi Him Memorial Prize in Physics**

2016-2017

The scholarships are awarded respectively to the best students completing the first year, and the other the second year, of the BSc curriculum in Physics of HKU

**Dean's Honours List**

2016 -2017

The Yearly GPA cut-off point for the Dean's Honours List should be 3.6

Students have to complete successfully at least 48 credits with grades in a specified academic year

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**RESEARCH EXPERIENCE**

**Construction of parameter inference pipeline for weak lensing higher-order statistics**

*Jan 2022 – present*

Collaborator: Anik Halder

- Apply weak lensing shear integrated 3-point correlation function combined with 2-point correlation function to obtain better constraints on cosmological parameters

**Constraining cosmic neutrino masses with 2-point analysis**

*Nov 2020 – Dec 2021*

Supervisor: Dr. Stella Seitz and Prof. Ralf Bender (USM, MPE)

- Master thesis
- Construct theoretical models of weak lensing convergence 2-point correlation function based on Massive Neutrino Simulations
- Apply Fisher analysis and MCMC sampling to infer parameter covariance

**Radio polarization study of Pulsar Wind Nebulae**

*Sep 2018 – Apr 2019*

Supervisor: Dr. Stephen Ng (HKU)

- Final year project
- Apply radio interferometry techniques to form images of a pulsar wind nebula
- Map the magnetic field of a specific pulsar wind nebula and study its morphology using radio data from Australia Telescope Compact Array

**Gravitational lensing**

*Dec 2017 – Mar 2018*

Advisor: Dr. Jeremy Lim (HKU)

- Undergraduate research
- Search for transient objects appearing in the gravitational lensing arcs through light curve plots based on the image from Gran Telescope Canarias
- Help to identify the objects, whether they are galaxies, heavy objects or stars

**Summer Research Fellowship (Science Faculty, HKU)**

**Galactic magnetic field model**

*Jun 2017 – Aug 2017*

Supervisor: Dr. Meng Su (HKU)

- Undergraduate research

- Adopt and modify the existing large-scale galactic magnetic field distribution models to account for its effects in CMB foreground

## PRESENTATIONS AND WORK EXPERIENCE

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### Lab supervision

Student supervisor for bachelor physics lab P3A Beugung 2021 in University Observatory, LMU

### Student Assistant

Student assistant from 15.03.2020 in the gravitational lensing group in University Observatory, LMU until 14.05.2020

### Poster Presentation

*“A Simple Model of Galactic Magnetic Field with polarized thermal dust emission of Planck and rotation measures,”* Summer Research Fellowship Presentation, 18<sup>th</sup> Oct, 2017.

## COMMUNITY SERVICE

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### Science Student Ambassador Scheme

2016 – 2017

Elected as Science Student Ambassador

Help to organize information sharing sessions and experience sections for senior high students and fresh undergraduates in HKU campus.

### Year Representative of the physics department, HKU

2015 – 2019

Responsible for collecting opinions and suggestions from peer students on teaching quality, course arrangements and research opportunities, reflecting them during the yearly department committee conference.

## LANGUAGES

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**Chinese:** Native Language

**English:** TOEFL scores 111; GRE general scores 325+3.5; GRE physics 950

**German:** IUCM certificate on passing German A1.1 with grade 1.0

## COMPUTER SKILLS

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**Programming:** Python, C++, Fortran

**Applications:** MIRIAD, ds9, TreeCorr, Healpy etc

## OTHERS

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Have certain amount of knowledge in history and philosophy through undergraduate lectures and daily readings

Have written more than 200 short essays on topics such as book reviews, travelling and school life in a sina blog

Have one-year experience in practicing kendo

## **REFERENCES**

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References are available on request