

# CURRICULUM VITAE OF ZIANG YAN

yanza15@phas.ubc.ca

Department of Physics and Astronomy  
310-6224 Agricultural Road  
Vancouver, BC V6T 1Z1  
<https://yanzastro.github.io/>

## EDUCATION

---

<b>University of British Columbia, Vancouver</b> PhD in Physics Supervisor: Profs. Gary Hinshaw and Ludovic van Waerbeke Proposed Thesis: <i>Probe the Universe with Multiple Large-scale Structure Tracers</i>	2017.09-2021.09(expected)
<b>University of British Columbia, Vancouver</b> MSc in Astronomy Supervisor: Prof. Gary Hinshaw Major Courses GPA: 92/100	2015.07-2017.08
<b>Tsinghua University, Beijing</b> BSc in Physics Supervisor: Prof. Charling Tao Major Courses GPA: 91/100	2011.09-2015.07

## HONORS AND AWARDS

---

2020 President's Academic Excellence Initiative PhD Award  
2018 UBC Four Year Doctoral Fellowship  
2016 Physics and Astronomy Graduate Scholarship  
2015 Faculty of Science Graduate Award  
2014 The outstanding academic scholarship of Guanghua  
2013-2015 Tsinghua Xuetaang scholarship  
2013-2015 Member Student of Tsinghua Xuetaang Physics Program  
2012 The outstanding academic scholarship of Zheng Geru

## RESEARCH EXPERIENCE

---

Graduate Research Assistant, University of British Columbia	2015.09-present
Group Member, Cosmology Group of Peking University	2014.09-2015.07
Undergraduate Research Assistant, Cosmology Group of Tsinghua University	2013.09-2015.08
Summer Research, APC, Paris	2014.07-2014.08
Tsinghua Student Research Training	2012-2013

## COLLABORATIONS

---

Kilo-Degree Survey	2019-Present
Cosmology Large Angular Scale Surveyor	2017-Present
Primordial Inflation Explorer	2016-2017

## PUBLICATIONS

---

1. **Z. Yan**, et al., "Probing Galaxy and Gas Properties with KiDS Galaxies-tSZ-CMB Lensing Cross-correlations" (**In preparation**)
2. **Z. Yan**, A. J. Mead, L. Van Waerbeke, G. Hinshaw and I. G. McCarthy, doi: 10.1093/mnras/staa3030 [arXiv:2005.11819 [astro-ph.CO]]. (**Accepted**)
3. **Z. Yan**, N. Raza, L. Van Waerbeke, A. J. Mead, I. G. McCarthy, T. Tröster and G. Hinshaw, Mon. Not. Roy. Astron. Soc. **493** (2020) no.1, 1120-1129 doi:10.1093/mnras/staa295 [arXiv:1912.06663 [astro-ph.CO]].
4. **Z. Yan**, A. Hojjati, T. Tröster, G. Hinshaw and L. van Waerbeke, doi:10.3847/1538-4357/ab40b2 [arXiv:1809.09636 [astro-ph.CO]].
5. J. Iuliano, J. Eimer, L. Parker, G. Rhoades, A. Ali, J. W. Appel, C. Bennett, M. Brewer, R. Bustos and D. Chuss, *et al.* Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 1070828 doi:10.1117/12.2312954 [arXiv:1807.04167 [astro-ph.IM]].
6. K. Harrington, J. Eimer, D. T. Chuss, M. Petroff, J. Cleary, M. DeGeorge, T. W. Grunberg, A. Ali, J. W. Appel and C. L. Bennett, *et al.* Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 107082M doi:10.1117/12.2313614
7. S. Dahal *et al.* [CLASS], Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 107081Y [arXiv:1807.03927 [astro-ph.IM]].

## TALKS

---

- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (Astronomy Colloquium, UBC, 2020)
- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (UBC-SFU-TRIUMF adjoint meeting, 2020)
- An analysis of galaxy cluster mis-centring using large scale hydrodynamical simulations (UBC-SFU-TRIUMF adjoint meeting, 2019)
- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (Invited talk at Institut d'Astrophysique Spatiale, 2019)
- Estimate the  $\kappa$ -CIB Contamination in  $\kappa$ - $\gamma$  Cross Correlation (UBC-SFU-TRIUMF adjoint meeting, 2017)
- Dark Energy as Cosmological Constant (Workshop at SSI2017)
- Tsinghua Xuetaang Physics Program Talk (Tsinghua University 2014)
- Noise Analysis for QUBIC Instrument (Tsinghua Xuetaang Physics Program Summer Internship Report, 2014)

## WORKSHOPS AND MEETINGS

---

- |   |                             |
|---|-----------------------------|
| • CosmoGold IAP 2019 Workshop             | IAP, Paris, France, 2019.06 |
| • SSI SLAC Summer Institute 2017 Workshop | SLAC, CA, USA, 2017.08      |
| • Frontier Conference in Cosmology        | Beijing, China, 2014.06     |

## TEACHING AND MENTORING EXPERIENCE

---

Teaching Assistant

- Introduction to Stars and Galaxies (UBC, 2018 Winter);
- Introductory Physics Laboratory for Engineers (UBC, 2018 Winter);
- Electricity, Light and Radiation (UBC, 2018 Summer);
- Energy and Waves (UBC, 2015 Winter);
- Introductory Physics (UBC, 2015 Winter);

### Grader

- Theory of Measurement (UBC, 2020 Winter)
- High Energy Astrophysics (UBC, 2019 Winter)
- Group Theory (UBC, 2019 Winter)
- Cosmology (UBC, 2018 Winter)

### Mentorship

Angela Zhou (high-school student): *An investigation of a dark matter-dark energy interaction model to explain discrepancies in Hubble rate measurements.* (2019-present)

## OUTREACH

---

### Public talks

- Introduction to Astronomy (Xinhuang No.1 Middle School, Hunan, China, 2015)

### Book Translation (To Chinese)

- *Gravity: A Very Short Introduction*; ISBN: 9787544392730
- *Solar System*; in-print

### Other activities

- Writing science popularization articles on various topics on Chinese social media (with  $\sim 200k$  readings)

## LANGUAGE SKILLS

---

Mandarin (Mother Tongue), English (Proficient), Japanese (Intermediate), German (Daily conversations), Cantonese (Moderate)

## COMPUTER SKILLS

---

<b>Language</b>	Python, Fortran, L <sup>A</sup> T <sub>E</sub> X, C, IDL
<b>Software &amp; Tools</b>	IRAF, CAMB, Healpix, PYCCL

## REFERENCES

---

Dr. Gary Hinshaw Professor Department of Physics and Astronomy University of British Columbia +1 604 827-4063 hinshaw@phas.ubc.ca	Dr. Ludovic van Waerbeke Professor Department of Physics and Astronomy University of British Columbia +1 604 822 5515 waerbeke@phas.ubc.ca
--	---

Dr. Yin-Zhe Ma  
Professor  
School of Chemistry & Physics  
University of KwaZulu-Natal  
+27(0)31 260 2777  
ma@ukzn.ac.za