

# CURRICULUM VITAE OF ZIANG YAN

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Department of Physics and Astronomy  
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<https://yanzastro.github.io/>

## EDUCATION

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**University of British Columbia, Vancouver** 2017.09-(expected)2021.09

PhD in Physics

Supervisor: Profs. Gary Hinshaw and Ludovic van Waerbeke

Proposed Thesis: *Probe the Universe with Multiple Large-scale Structure Tracers*

**University of British Columbia, Vancouver** 2015.07-2017.08

MSc in Astronomy

Supervisor: Prof. Gary Hinshaw

Major Courses GPA: 92/100

**Tsinghua University, Beijing** 2011.09-2015.07

BSc in Physics

Supervisor: Prof. Charling Tao

Major Courses GPA: 91/100

## RESEARCH EXPERIENCE

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**Research Assistant**, University of British Columbia 2015.09-present

**Group Member**, Cosmology Group of Peking University 2014.09-2015.07

**Undergraduate Research Assistant**, THCA 2013.09-2015.08

**Summer Research**, APC, Paris 2014.07-2014.08

**Tsinghua Student Research Training** 2012-2013

## RESEARCH INTERESTS

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Galaxy clusters, large-scale structure, tSZ effect, weak lensing, cross-correlations, application of deep learning

## COLLABORATIONS

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Cosmology Large Angular Scale Surveyor 2017-Present

Kilo-Degree Survey 2019-Present

## PUBLICATIONS

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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, [arXiv:2005.11819 [astro-ph.CO]].

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

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- 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 Xuetang Physics Program Talk (Tsinghua University 2014)
- Noise Analysis for QUBIC Instrument (Tsinghua Xuetang Physics Program Summer Internship Report, 2014)

## WORKSHOPS AND MEETINGS

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

## HONORS AND AWARDS

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

## LANGUAGE SKILLS

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

## COMPUTER SKILLS

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Language	Python, Fortran, L <sup>A</sup> T <sub>E</sub> X, C, IDL
Software & Tools	IRAF, CAMB, Emacs

## TEACHING AND MENTORING EXPERIENCE

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### Teaching Assistant

Introductory Physics(PHYS100), Energy and Waves (PHYS101), Electricity, Light and Radiation (PHYS118), Introductory Physics Laboratory for Engineers (PHYS159), Introduction to Stars and Galaxies (ASTR102)

### Grader

High Energy Astrophysics (ASTR506), Group Theory (PHYS521), Quantum Field Theory (PHYS526), Cosmology (PHYS571)

### 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

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### 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

## REFERENCES

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Dr. Gary Hinshaw

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Dr. Ludovic van Waerbeke

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