

Chieh-An LIN

Born December 10th, 1989
From Taichung, Taiwan

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Positions

- Since 2017 **Postdoctoral research staff**, Institute for Astronomy, University of Edinburgh.
2016–2017 Mandatory military and civil service.
Fenglin Veteran Hospital, Taiwan.

Education

- 2013–2016 **PhD degree** in cosmology.
CEA Saclay, France. Advisor: Martin Kilbinger.
Thesis: *Cosmology with weak-lensing peak counts*.
- 2012–2013 **MSc degree** in high energy physics.
École Polytechnique, Palaiseau, France.
- 2009–2013 **Diplôme d'ingénieur** (French Engineering Degree).
École Polytechnique, Palaiseau, France.
GPA: 4.18/4.4. Ranked 37th out of 414 students.
- 2007–2009 Intensive preparatory program leading to competitive entrance exams to the French *Grandes Écoles*. Lycée Louis le Grand, Paris, France. GPA: 4.0/4.0.
- 2007 Selected for the program “Taiwanese Students in French Classes Préparatoires”.
Ranked 1st place. Started French classes.
- Until 2007 Secondary education in Taiwan.
National Taichung First Senior High School, Taiwan.
Ranked 10th out of 1100 students.

Refereed papers

- In prep. **Lin C-A**, Alam S, Heymans C, & Harnois-Déraps J. *Estimating the joint covariance of weak-lensing Gaussian and non-Gaussian statistics with a fast simulator*.
- Jun 2018 **Lin C-A** & Kilbinger M. *Quantifying systematics from the shear inversion on weak-lensing peak counts*. *A&A*, 614, A36.
- Jul 2017 Beck R, **Lin C-A**, Ishida E E O, Gieseke F, et al. *On the realistic validation of photometric redshifts*. *MNRAS*, 468, 4323.
- Mar 2017 Peel A, **Lin C-A**, Lanusse F, Leonard A, et al. *Cosmological constraints with weak-lensing peak counts and second-order statistics in a large-field survey*. *A&A*, 599, A79.
- Sep 2016 **Lin C-A**, Kilbinger M, & Pires S. *A new model to predict weak-lensing peak counts III. Filtering techniques comparisons*. *A&A*, 593, A88.
- Jun 2016 Pierre M, Pacaud F, ..., **Lin C-A**, et al. *The XXL Survey: I. Scientific motivations — XMM-Newton observing plan — Follow-up observations and simulation programme*. *A&A*, 592, A1.
- Nov 2015 **Lin C-A** & Kilbinger M. *A new model to predict weak-lensing peak counts II. Parameter constraint strategies*. *A&A*, 583, A70.
- Apr 2015 **Lin C-A** & Kilbinger M. *A new model to predict weak-lensing peak counts I. Comparison with N-body simulations*. *A&A*, 576, A24.

Proceeding

May 2014 **Lin C-A** & Kilbinger M. *A New Model to Predict Weak Lensing Peak Counts*. Statistical Challenges in 21st Century Cosmology, Lisbon, Portugal.

Talks

Oct 2018 LPC Cosmology Seminar, Clermont-Ferrand, France. (**Invited**)
Oct 2018 DAp Cosmology Seminar, Saclay, France.
Sep 2018 UCL Cosmology Seminar, London, UK.
May 2018 Statistical Challenges in 21st Century Cosmology, Valencia, Spain. (Contributed)
Apr 2018 Statistical Challenges for Large-scale Structure in the Era of LSST, Oxford, UK.
Apr 2018 ICC/CEA Seminar, Durham, UK. (**Invited**)
Feb 2018 KiDS Busy Week, Edinburgh, UK.
Jan 2018 Durham-Edinburgh eXtragalactic Workshop XIV, Durham, UK.
Jun 2016 UTD Cosmology Seminar, Dallas, USA. (**Invited**)
Jun 2016 Statistical Challenges in Modern Astronomy VI, Pittsburgh, USA. (Contributed)
Jun 2016 Euclid Consortium Meeting, Lisbon, Portugal.
May 2016 Statistical Challenges in 21st Century Cosmology, Chania, Greece. (Contributed)
Sep 2015 IAP Cosmology Seminar, Paris, France.
Jan 2015 IAS Cosmology Seminar, Orsay, France. (**Invited**)
Jan 2015 ASIAA Seminar, Taipei, Taiwan.
Sep 2014 International Workshop on Cosmology and Sparsity 2, Nice, France. (Contributed)
May 2014 Euclid Consortium Meeting, Marseille, France.

Student Seminars

Dec 2015 DIM-ACAV Fellowship Colloquium, Paris, France.
Nov 2015 Elbereth Conference, Paris, France.
Jul 2015 Irfu Student Seminar, Saclay, France.
Jan 2015 Mid-thesis presentation, Paris, France.
Mar 2013 LPT Student Journal Club, Orsay, France.
Dec 2013 SAp Student Seminar, Saclay, France.
Oct 2013 DIM-ACAV Fellowship Colloquium, Paris, France.

Posters

Jul 2016 From Theory to Applications: Celebrating a Century of Gravitational Lensing, Leiden, the Netherlands.
Jul 2015 Theoretical and Observational Progress on Large-scale Structure of the Universe, Garching, Germany.
May 2014 Statistical Challenges in 21st Century Cosmology, Lisbon, Portugal.

Software

CAMELUS Fast weak-lensing peak-count modelling in C.

Awards and Honors

Jan 2016 Grants for International Collaborations, Université Paris Diderot.
Jun 2013 AMX Doctoral Fellowship, École Polytechnique. (Declined)
Nov 2011 Outstanding Investment, École Polytechnique.
Jul 2011 Team-Based Research Project Competition — First Prize, École Polytechnique.

Dec 2006 National High School Academic Competition — Second Prize in mathematics, Ministry of Education.

Teaching Experience

- Summer 2018 Summer intern: Shiming Gu, University of Edinburgh.
2014–2016 Teaching assistant, *Nonlinear Optics MOOC*, École Polytechnique.
Spring 2015 Instructor, *Introduction to Quantum Mechanics*, École Polytechnique.
Fall 2014 High school project advisor, *Matière noire*.
Spring 2013 Instructor, *Quantum Mechanics and Statistical Physics*, École Polytechnique.
2009–2010 High school level tutor, Collège Saint-François, France.

Service Works

- Since 2018 Paper reviewer for PRD.
Since 2018 Seminar organizer of the “Coffee Talks” institute seminar series, University of Edinburgh.
2015–2016 Seminar organizer of the “CosmoClub” group seminar series, CEA Saclay.
2014–2016 PhD student representative for the SAP/AIM Laboratory Council, CEA Saclay.

Predocctoral research projects

- 2012 Master project at Laboratoire APC, Paris, France.
Title: *Constraining the non-Gaussianity of CMB anisotropies*.
Advisor: Guillaume Patanchon.
Estimated the statistical measurement uncertainty of the local-shaped bispectrum amplitude for a two-scalar-field inflation. Generalization of [arXiv: 1204.5042].
- 2011–2012 Master project at Laboratoire Leprince-Ringuet (LLR), Palaiseau, France.
Title: *Autopsy of a hadronic beam*.
Advisor: Vincent Boudry.
R&D of the International Linear Collider (ILC). Create algorithms to trace particle paths in the Semi-Digital Hadronic Calorimeter (SDHCAL).
- 2011 Undergraduate project: Applied work in laboratory (MODAL).
Title: *Different approaches for improving the lift-to-drag ratio*.
- 2010–2011 Undergraduate project: Team-Based Research Project (PSC).
Title: *Heat and Matter Transport in a Termite Mount*.
Awarded First Prize among 80 teams.
- 2008–2009 Entrance exam project: Personal Initiative Research Work (TIPE).
Title: *Brownian motion and random walk*.
- 2005–2006 National High School Science Fair.
Title: *Generalization of the Regiomontanus’ angle maximization problem*.
- 2005 Taiwan International Science Fair.
Title: *Modelling clock-hand overlaps with periodic functions*.

Outreach

- 2016–2018 **Scientific translation consultant** for the French version of the science fiction trilogy *The Three-Body Problem*, *The Dark Forest*, and *Death’s End* by Cixin Liu.
- Feb 2016 Labouret T, Pinilo M, & **Lin C-A**. *Dessine ta thèse 2 — La déformation des galaxies*. Video in French with English subtitles.
- Mar 2015 **Lin C-A**. *Popular Astrophysics from Interstellar*. Taiwan Natural Science, 125, 84.

2013–2014 **Outreach speaker** at *Palais de la découverte*, Paris, France.
Gave public talks on scientific topics in physics/cosmology.

Miscellaneous

2014–2017 **Editor, writer, co-founder** of *Association Aurore Formosane*, Paris, France.
Aurore Formosane edits and publishes a French-writing magazine about Taiwanese culture.

2010–2011 **In charge of equipment** at *École Polytechnique Student Media (JTX)*.
JTX is a team feeding up the campus life with humour by films and videos.

2011 **Summer intern** at TST Engineering Ltd., Dublin, Ireland.
Software R&D for 3D subsurface utilities mapping.

Jul 2011 **Bastille Day Military Parade**, Paris, France.

2009–2010 **Volunteer educator** at *Fondation d’Auteuil*, Saint-Maurice-Saint-Germain, France.
Gave tutorial courses for underprivileged adolescents and took care of their daily activities after school.

Skills

Keywords weak lensing, non-Gaussian statistics, clusters, cosmological constraints, semi-analytical modelling, likelihood-free inference

Languages Mandarin (native), Taiwanese (fluent), English (bilingual), French (bilingual), German (basic)

Programming C, C++, Python, Java, Lisp, Caml, MPI, CSS, \LaTeX

Software CLASS, NICA EA, CAMELUS

Interests

Former choir, handball, piano, ping-pong, theater performing, video editing
Current bridge, paper craft, road running, reading, science outreach, writing

References

- * Martin Kilbinger – martin.kilbinger@cea.fr – +33 1 69 08 17 53
Research faculty – CEA Saclay – Service d’Astrophysique
- * Catherine Heymans – heymans@roe.ac.uk – +44 131 668 8301
Professor – University of Edinburgh – Institute for Astronomy
- * Benjamin Joachimi – b.joachimi@ucl.ac.uk – +44 203 549 5835
Reader – University College London – Department of Physics & Astronomy