Yu-Yen Chang | Curriculum Vitae

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Research

○ Computational Scientist, Turion Space, USA	2025-present
○ Associate Professor (tenured), Physics Department, NCHU, Taiwan	2023-2025
○ Assistant Professor, Physics Department, NCHU, Taiwan	2020-2023
○ Postdoctoral Fellow, ASIAA, Taiwan	2016-2020
Advisor: Dr. Wei-Hao Wang and Dr. Lihwai Lin	
○ Postdoctoral Fellow, CEA-Saclay, France	2014-2016
Advisor: Dr. Emeric Le Floc'h	
○ Postdoctoral Fellow, Max Planck Institute for Astronomy, Germany	2014
Advisors: Prof. Dr. Hans-Walter Rix and Prof. Dr. Arjen van der Wel	
○ ASIAA Summer Student Program, ASIAA, Taiwan	2007
Supervisor: Dr. Patrick Koch	

Education

○ **Ph.D.**: **Astronomy** — 2013
International Max Planck Research School for Astronomy and
Cosmic Physics at the University of Heidelberg, Germany
Thesis: *Galaxy Shapes through Cosmic Time –*
Intrinsic Structure of Early-type Galaxies at High Redshift
Supervisors: Prof. Dr. Hans-Walter Rix and Prof. Dr. Arjen van der Wel

○ **M.S.**: **Physics** — 2010
National Taiwan University, Taiwan
Thesis: *The Correlation between Global Parameters of Galaxies and*
its Implications on the Role of Dark Matter in Structure Formation
Supervisors: Prof. Dr. Pisin Chen and Dr. Wei-Hao Wang

○ **M.S.**: **Radio Astronomy and Space Science** — 2009
Chalmers University of Technology, Sweden
Thesis: *The Influence of Large-Scale Filaments*
on Cluster SZE Observations and on some Cosmological Parameters
Supervisor: Dr. Patrick Koch / Examiner: Prof. Dr. Cathy Horellou

○ **B.S.**: **Communication Engineering** — 2007
National Chiao-Tung University, Taiwan
Thesis: *STBC MIMO-OFDM system*
Supervisor: Prof. Dr. Ta-Sung Lee

Publication

First Author Papers (N=10; >400 citations)

- **Yu-Yen Chang**, Lihwai Lin, Hsi-An Pan, Chieh-An Lin, Bau-Ching Hsieh, Connor Bottrell, Pin-Wei Wang, *SDSS-IV MaNGA: Unveiling Galaxy Interaction by Merger Stages with Machine Learning*, **ApJ, 937, 97**, 2022.

- **Yu-Yen Chang**, Bau-Ching Hsieh, Wei-Hao Wang, Yen-Ting Lin, Chen-Fatt Lim, Yoshiki Toba, Yuxing Zhong, Siou-Yu Chang, *Identifying AGN host galaxies by Machine Learning with HSC+WISE*, **ApJ, 920, 68**, 2021.

- **Yu-Yen Chang**, Emeric Le Floc'h, Stéphanie Juneau, Elisabete da Cunha, Mara Salvato, Avishai Dekel, Francesca Civano, Stefano Marchesi, Hyewon Suh, and Wei-Hao Wang, *Unveiling Sizes of Compact AGN Hosts with ALMA*, **ApJ, 888, 44**, 2020.

- **Yu-Yen Chang**, Nicholas Ferraro, Wei-Hao Wang, Chen-Fatt Lim, Yoshiki Toba, Fangxia An, Chian-Chou Chen, Ian Smai, Hyunjin Shim, Yiping Ao, Andy Bunker, Christopher J. Conselice, William Cowley, Elisabete da Cunha, Lulu Fan, Tomotsugu Goto, Kexin Guo, Luis C. Ho, Ho Seong Hwang, Chien-Hsiu Lee, Minju Lee, Michał J. Michałowski, I. Oteo, Douglas Scott, Stephen Serjeant, Xinwen Shu, James Simpson, and Sheona Urquhart, *SCUBA-2 Ultra Deep Imaging EAO Survey (STUDIES) II: Structural Properties and Near-Infrared Morphologies of Faint Submillimeter Galaxies*, **ApJ, 865, 103**, 2018.

- **Yu-Yen Chang**, Emeric Le Floc'h, Stéphanie Juneau, Elisabete da Cunha, Mara Salvato, Francesca Civano, Stefano Marchesi, Olivier Ilbert, Yoshiki Toba, Chen-Fatt Lim, Ji-Jia Tang, Wei-Hao Wang, Nicholas Ferraro, Megan C. Urry, Richard E. Griffiths, Jeyhan S. Kartaltepe, *Infrared Selection of Obscured Active Galactic Nuclei in the COSMOS Field*, **ApJS, 233, 19**, 2017b.

- **Yu-Yen Chang**, Emeric Le Floc'h, Stéphanie Juneau, Elisabete da Cunha, Mara Salvato, Francesca Civano, Stefano Marchesi, J. M. Gabor, Olivier Ilbert, Clotilde Laigle, Henry Joy McCracken, Bau-Ching Hsieh, Peter Capak, *Obscured Active Galactic Nuclei triggered in compact star-forming galaxies*, **MNRAS Letters, 466, 103**, 2017a.

- **Yu-Yen Chang**, Arjen van der Wel, Elisabete da Cunha, Hans-Walter Rix, *Stellar Masses and Star Formation Rates for 1M Galaxies from SDSS and WISE*, **ApJS, 219, 8**, 2015.

- **Yu-Yen Chang**, Arjen van der Wel, Hans-Walter Rix, Bradford Holden, Eric Bell, Elizabeth J. McGrath, Stijn Wuyts, Boris Häußler, Marco Barden, S. M. Faber, Mark Mozena, Henry C. Ferguson, Yicheng Guo, Audrey Galametz, Norman A. Grogin, Dale D. Kocevski, Anton M. Koekemoer, Avishai Dekel, Kuang-Han Huang, Nimish P. Hathi, Jennifer Donley, *Structural Evolution of Early-type Galaxies to z=2.5 in CANDELS*, **ApJ, 773, 149**, 2013b.

- **Yu-Yen Chang**, Arjen van der Wel, Hans-Walter Rix, Stijn Wuyts, Stefano Zibetti, Balasubramanian Ramkumar, and Bradford Holden, *Shape Evolution of Massive Early-Type Galaxies: Confirmation of Increased Disk Prevalence at $z > 1$*, **ApJ, 762, 83**, 2013a.

- **Yu-Yen Chang**, Rickon Chao, Wei-Hao Wang, and Pisin Chen, *A Principle Component Analysis of Galaxy Properties from a Large, Gas-Selected Sample*, **Advances in Astronomy, 2012, 208901**, 2012.

Other Peer-review Papers (N=30; >5000 citations)

Scientific Activity

- Journal Referee: ApJ, AJ, MNRAS — 2013-present
- Successful Telescope Proposals: ALMA, VLT/KMOS, JCMT Large Programs — 2015-present
- NSTC and MoST research grants — 2020-2025
- Insight Data Science Fellow — 2020

Selected Talks

- IAU-IAA seminar, online (invited)   Jul2023
  Unveiling Galaxies and AGNs by Machine Learning
- University of Victoria Seminar, Victoria, Canada   Apr2023
  Unveiling Galaxy Interactions and AGNs by Machine Learning
- NCUE Seminar, Taipei, Taiwan   Mar2023
  Unveiling Galaxies with Large Surveys
- HSC-AGN collaboration meeting, Kagoshima and online (invited)   Nov2022
  Unveiling AGN Host Galaxies by Machine Learning
- Cross-Strait Forum on Radio Astronomy, online (invited)   Oct2022
  Unveiling Structures of AGN Host Galaxies
- NTNU Seminar, Taipei, Taiwan   Dec2021
  Unveiling Galaxies and AGNs by Machine Learning
- NTHU Seminar, Hsinchu, Taiwan   Mar2021
  Identifying AGN host galaxies by Machine Learning
- NYCU HEP Seminar, Hsinchu, Taiwan   Mar2021
  Unveiling Galaxies and Supermassive Black Holes with Big Data
- *Multiscale Feedback on Galaxy Evolution*, Hsinchu, Taiwan (invited)   Oct2020
  Observational Diagnostics of AGN Feedback
- NCU Seminar, Zhongli, Taiwan   Sep2020

Technical Skills

- Programming languages: Python, SQL, IDL, Matlab, Mathematica, C
- Astronomical tools: MAGPHYS, Le PHARE, CIGALE, GALFIT, SExtractor, GALAPAGOS
- Data Science tools: Image processing, Statistical Modeling, Dimensionality Reduction, NLP

Teaching Experiences

- NCHU courses: Galaxies, General Astronomy, General Physics, Lab, Seminar, ...   2020-2025
- NCHU supervision: 2 bachelor, 3 master, 1 PhD students, and 1 postdoc   2020-2025
- ASIAA Summer Student Lecture   2017-2019
- ASIAA Summer Student Program 2017 with 2 students   2017
- Heidelberg University tutor on FP36   2011-2012
- National Taiwan University TA on Statistical Physics   2010