

I-DA CHIANG

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EXPERIENCE

University of California - San Diego, La Jolla, CA

Sep. 2014 - Est. Jun. 2021

Graduate Research Assistant

- Built a python-based toolkit for dust SED fitting and multi-wavelength data analysis.
- Analyzed the dust-to-gas and dust-to-metal ratios in the spiral galaxy M101.
- Analyzed the dust-to-metal ratio and CO-to-H₂ conversion factor in detail in 5 nearby galaxies.
- Examined the empirical radiation distribution law and the turbulent power spectrum in the local group galaxies with the dust SED fitting tools.
- Reduced H_i 21cm line data of ~30 galaxies observed by VLA with the Common Astronomy Software Applications package (CASA).

University of California - San Diego, La Jolla, CA

Sep. 2014 - Jun. 2016

Teaching Assistant (TA) and Lab TA Coordinator

- Familiarized new teaching assistants with lab setups and teaching skills.
- Led discussion sessions, which helped ~ 40 students each week.
- Led introductory level physics lab, with 24 students per session.
- Improved course materials from feedback from teaching assistants and students.

National Taiwan University, Taipei City, Taiwan

Sep. 2012 - Jun. 2014

Graduate Research Assistant

- Improved the photo-degradation reactor for wastewater treatment with plasmonic nano-particles.
- Built the protocol for maintaining/using the sputter machine and clean room.

Taiwan (R.O.C.) Armed Forces, Hsinchu County, Taiwan

Aug. 2011 - Jul. 2012

Second Lieutenant (Company second-in-command)

EDUCATION

University of California - San Diego

Sep. 2014 - Est. Jun. 2021

Ph.D. (Physics and Astronomy)

Adviser: Prof. Karin M. Sandstrom

National Taiwan University

Aug. 2012 - Jul. 2014

M.S. (Physics)

Thesis: "Plasmonic Enhanced Optical Disk Reactor for Wastewater Treatment"

Adviser: Prof. Din Ping Tsai

National Taiwan University

Sep. 2007 - Jun. 2011

B.S. (Physics)

REFEREED PUBLICATIONS AS FIRST OR SECOND AUTHOR

- 4) **I-D. Chiang**, K.M. Sandstrom, J. Chastenet, E. Koch, K. Kreckel, A.K. Leroy, A. Schrubba, D. Utomo, T. Williams, “Resolving the Dust-to-Metals Ratio and CO-to-H₂ Conversion Factor in the Nearby Universe”, 2020, [arXiv:2011.10561](#), *submitted to ApJ*.
- 3) E.W. Koch, **I-D. Chiang**, D. Utomo, J. Chastenet, A.K. Leroy, E.W. Rosolowsky, K.M. Sandstrom, “Spatial power spectra of dust across the Local Group: No constraint on disc scale height”, 2020, MNRAS, 492, 2663.
- 2) D. Utomo, **I-D. Chiang**, A.K. Leroy, K.M. Sandstrom, J. Chastenet, “The Resolved Distributions of Dust Mass and Temperature in Local Group Galaxies”, 2019, ApJ, 874, 141.
- 1) **I-D. Chiang**, K.M. Sandstrom, J. Chastenet, L.C. Johnson, A.K. Leroy, D. Utomo, “The Spatially Resolved Dust-to-metals Ratio in M101”, 2018, ApJ, 865, 117.

A full publication list at ADS Public Library is available [here](#).

REFEREED PUBLICATIONS AS OTHER COAUTHOR

- 4) J. Sun, A.K. Leroy, E.C. Ostriker, A. Hughes, E. Rosolowsky, A. Schrubba, E. Schinnerer, G.A. Blanc, C. Faesi, J.M.D. Kruijssen, S. Meidt, D. Utomo, F. Bigiel, A.D. Bolatto, M. Chevance, **I-D. Chiang**, D. Dale, E. Emsellem, S.C.O. Glover, K. Grasha, J. Henshaw, C.N. Herrera, M.J. Jimenez-Donaire, J.C. Lee, J. Pety, M. Querejeta, T. Saito, K. Sandstrom, A. Usero, “Dynamical Equilibrium in the Molecular ISM in 28 Nearby Star-Forming Galaxies”, 2020, ApJ, 892, 148.
- 3) A.K. Leroy, K.M. Sandstrom, D. Lang, A. Lewis, E.A. Behrens, J. Chastenet, **I-D. Chiang**, M.J. Gallagher, D. Utomo, “A $z = 0$ Multi-wavelength Galaxy Synthesis I: A WISE and GALEX Atlas of Local Galaxies”, 2019, ApJS, 244, 24.
- 2) J. Chastenet, K.M. Sandstrom, **I-D. Chiang**, A.K. Leroy, D. Utomo, C. Bot, K.D. Gordon, B.T. Draine, Y. Fukui, T. Onishi, K. Tsuge, “Polycyclic Aromatic Hydrocarbon Fraction at ~ 10 pc scale in the Magellanic Clouds”, 2019, ApJ, 876, 62.
- 1) W.T. Chen, K.-Y. Yang, C.-M. Wang, Y.-W. Huang, G. Sun, **I-D. Chiang**, C.Y. Liao, W.-L. Hsu, H.T. Lin, S. Sun, L. Zhou, A.Q. Liu, D.P. Tsai, “High-Efficiency Broadband Meta-Hologram with Polarization-Controlled Dual Images”, 2014, Nano Lett., 14, 225.

RESEARCH PRESENTATIONS

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| Contributed talk, “Dust, gas and metals: Resolving the Dust Life Cycle in the Nearby Universe”,
The AAS 235th Meeting, Honolulu, USA | 2020 |
| Special seminar, “Dust-to-Metals Relation in Nearby Galaxies”, ASIAA, Taipei, Taiwan | 2019 |
| Poster, ASROC2019, Taichung, Taiwan | 2019 |
| Contributed talk, “The Variation of the Dust-to-Metals Ratio in Resolved Nearby Galaxies”, Dusting
the Universe, Tucson, USA | 2019 |
| Poster, CPHDUST, Copenhagen, Denmark | 2018 |
| Poster, ASROC2018, Kinmen, Taiwan | 2018 |

AWARDS

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| Dean’s Award, College of Science, National Taiwan University | Jun. 2014 |
| Dean’s Award, College of Science, National Taiwan University | Jun. 2011 |
| Presidential Award, National Taiwan University | Mar. 2011 |