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Education

1. Ph.D., Atmospheric Physics, National Central University, Taiwan, 2024.
2. B.S., Atmospheric Sciences, National Central University, Taiwan, 2016.

Publications

1. **Wang, Y.-C.** (2024), Characteristics of the Atmospheric Boundary Layer and Associated Air Pollution in Taiwan Based on a Multiple Aerosol Lidars Study, *Ph.D. Thesis*, National Central University, Taiwan, 156 pp.
2. Ou-Yang, C.-F.*, Chang, C.-C., Wang, S.-H., Chou, C.-K., Chuang, M.-T., Lin, T.-H., Chen, W.-N., Hsiao, T.-C., Yen, M.-C., **Wang, Y.-C.**, Lin, N.-H., Wang, J.-L. (2023). Integrated ground and vertical measurement techniques to characterize overhead atmosphere: Case studies of local versus transboundary pollution. *Science of The Total Environment*, 887, 163919.
3. **Wang, Y.-C.**, Wang, S.-H.*, Lewis, J. R., Chang, S.-C., Griffith, S. M. (2021). Determining Planetary Boundary Layer Height by Micro-pulse Lidar with Validation by UAV Measurements. *Aerosol Air Quality Research*, 21, 200336.
4. Wang, S.-H.*, H.-W. Lei, S. K. Pani, H.-Y. Huang, N.-H. Lin, E. J. Welton, S.-C. Chang, **Y.-C. Wang** (2020), Determination of Lidar Ratio for Major Aerosol Types over Western North Pacific Based on Long-Term MPLNET Data, *Remote Sensing*, 12(17), 2769.
5. Ke L.-J., S.-H. Wang*, H.-Y. Huang, **Y.-C. Wang**, H.-F. Chuang, R.-Y. Hung, Z.-C. You, S.-C. Chang (2018), Observations on atmospheric boundary layer structure using an unmanned aerial system, *Journal of Photogrammetry and Remote Sensing*, 23, 103-113. (航測及遙測學刊 in Chinese)

Conference Presentations

1. **Wang, Y.-C.**, Wang, S.-H., Yu, Jih-Yuan, 2024. Estimation of Atmospheric Boundary Layer Height Using Aerosol Lidars and its Application on Surface PM_{2.5} Concentrations. *Oral presentation* at Asia-Pacific Remote Sensing 2024, Kaohsiung, Taiwan, 2-4 Dec.
2. **Wang, Y.-C.**, Wang, S.-H., 2024. Evaluation of the atmospheric boundary layer structure effect on air quality using the micro-pulse lidar. *Oral presentation* at AAC 2024, Bcek Kuching, Sarawak, Malaysia, 3-7 Nov.
3. **Wang, Y.-C.**, Wang, S.-H., Yu, Jih-Yuan, 2024. Evaluate Atmospheric Boundary Layer characteristics and its effect on surface air quality using Aerosol Lidars over Taiwan. *Poster presentation* at ICAST 2024, Yilan, Taiwan, 20-21 Sep. *Won the Honorable Mention.*
4. **Wang, Y.-C.**, Wang, S.-H., 2023. Investigating the Relationship between PM_{2.5} Concentration and Planetary Boundary Layer Height by using Taiwan Micro Pulse Lidar Network. *Oral presentation* at American Geophysical Union Fall Meeting (AGU 23), San Francisco, USA, 11-15 Dec.
5. **Wang, Y.-C.**, Wang, S.-H., Ellsworth J. Welton, 2023. Investigating the relationship between PM_{2.5} concentration and PBL height by using Taiwan Micro Pulse Lidar Network. *Oral presentation and Competition* at ICAST 2023, Hsinchu, Taiwan, 22-23 June. *Won the Second Place Award.*
6. **Wang, Y.-C.**, Wang, S.-H., 2023. Micro Pulse Lidar: The technique of retrieving Planetary Boundary Layer Height and its Application on Surface Air Quality. *Poster presentation and Competition* at 2023 Space Science and Engineering Student Presentation, Taoyuan, Taiwan, 17 June. *Won the Thrid Place Award.*
7. **Wang, Y.-C.**, Wang, S.-H., 2023. Taiwan Micro Pulse Lidar Network: Planetary Boundary Layer Height Retrievals and its Application on Air Quality. *Poster presentation* at 2023 Theory and Technique Taiwan Forum on Sustainable Environment (2023 T&T TFOSE), Hsinchu, Taiwan, 24 Mar.

8. **Wang, Y.-C.**, Wang, S.-H., 2023. Taiwan Micro Pulse Lidar Network: Planetary Boundary Layer Height Retrievals and its Application on Air Quality. *Poster presentation* at Theory and Technique, International Conference on Sustainable Environment (2023 T&T & ICOSE), Chiangmai, Thailand, 12-15 Jan.
9. **Wang, Y.-C.**, Wang, S.-H., Hung, C.-C., 2022. The Relationships Between Concentration Variation of PM_{2.5} and Aerosol Vertical Distribution in Central Taiwan. *Poster presentation* at 2022 Asian Aerosol Conference (AAC 2022), Taipei, Taiwan, 12-16 June.
10. **Wang, Y.-C.**, Chen, Y., Wang, S.-H., Chang, C.-W., 2021. Climatology of planetary boundary layer height over Taiwan. *Oral presentation* at ICAST 2021, Pingtung, Taiwan, 24-25 Sep.
11. **Wang, Y.-C.**, Chen, B.-L., Wang, S.-H., 2020. Investigate the relationship between the PM_{2.5} concentration, aerosol optical characteristics and meteorology conditions over central Taiwan. *Oral presentation* at ICAST 2020, Yunlin, Taiwan, 25-26 Sep.
12. **Wang, Y.-C.**, Chen, Y., Wang, S.-H., Su, C.-L., 2019, The influence of lee vortex at offshore of Northern Taiwan to the air quality in Taoyuan area. *Oral presentation* at ICAST 2019, Tainan, Taiwan, 4-5 Oct.
13. **Wang, Y.-C.**, Wang, S.-H., Ellsworth J. Welton, Jasper R. Lewis, Chang, S.-C., 2019. Planetary boundary layer retrievals by using micro-pulse lidar measurements. *Oral and Poster presentation, and Competition* at 2019 Atmospheric Sciences Discipline Annual Meeting, Taoyuan, Taiwan, 16 Feb. *Won the First Place Award.*
14. **Wang, Y.-C.**, Wang, S.-H., Ke, L.-J., 2018. Validation of micro-pulse lidar PBL height retrievals using airborne measurements. *Oral presentation* at International Conference on Aerosol Science and Technology (ICAST) (ICAST 2018), Taipei, Taiwan, 14-15 Sep.
15. **Wang, Y.-C.**, Wang, S.-H., Ke, L.-J., 2018. Validation of micro-pulse lidar PBL height retrievals using airborne measurements. *Oral presentation and Competition* at 3rd International Conference on Atmospheric Dust (DUST 2018), Bari, Italy, 29-31 May 2018. *Won the award of Best Oral Presentation.*

Research Experience

1. 2024 – Present: Postdoctoral Research Fellow

Atmospheric instrumentation and applications, Dep. of Atmospheric Sciences, National Central University, Taiwan.

- **Taiwan Micro-pulse lidar Network and MPLNET Asian reference station, Taiwan.**
- **Asia-Pacific AERONET Calibration and Training Center (APAC), Taiwan.**

2. 2017 – 2024: Ph.D. Student

Taiwan Micro-pulse lidar Network and MPLNET Asian reference station, Taiwan.

- Build the sites of network.
- Instrumentation operating, calibration, and data analysis.

Asia-Pacific AERONET Calibration and Training Center (APAC), Taiwan.

- Build the indoor calibration center and LABS outdoor calibration platform.
- Instrumentation operating and data analysis.

Lulin Atmospheric Background Station (LABS), Taiwan.

- Instrumentation operating and data analysis.

3. 2023 – 2024: Teaching Assistant of Special Topics for Undergraduate students

Atmospheric instrumentation and applications, Dep. of Atmospheric Sciences, National Central University, Taiwan.

- Training of instrumentation operation and maintenance in field campaigns.
- Data analysis of micro-pulse lidar and wind lidar.

4. 2016 – 2020: Teaching Assistant of the Class for Undergraduate students

Atmospheric Instrumentation and Observation, Dep. of Atmospheric Sciences, National Central University, Taiwan.

- Meteorological observation methods and conceptions.
- Meteorology instrumentation operating, maintaining, and data analysis.

5. 2016 – 2017: Graduate Student Internship

Cloud and Aerosol Laboratory, National Central University, Taiwan.

- Learn the operation, maintaining, and data analysis of micro-pulse lidar and sun-photometer.

6. Summer 2015 & Summer 2016: Undergraduate and Graduate Student Internship

Instrumentation design and produce, ZHANG JIA LTD, Taiwan.

- Designing and manufacturing self-make nephelometer.
- Application of self-make nephelometer.

7. 2013-2015: Undergraduate Student Internship

Cloud and Aerosol Laboratory, National Central University, Taiwan.

- Learn the operation and maintaining of micro-pulse lidar and sun-photometer.

Research Activities

1. Visiting Activities

- **Aug 2019: University of Maryland, Baltimore County (UMBC), Maryland, USA.**

Improving the methods of PBL height retrieval (Wang et al., 2021); stations visiting and instrumentations learning.

- **Mar 25 - Apr 9, 2019: Institute of Methodologies for Environmental Analysis (IMAA), CNR, Italy.**

Detecting precipitation by using Raman Lidar System (DPRLS).

2. Field campaign

- Airborne and Satellite Investigation of Asian Air Quality (ASIA-AQ 2024), Central and Southern Taiwan, Feb - Mar, 2024.
- 7-SEAS 2024 Kao-Ping Experiment (KPEX-2024), Kaohsiung and Pingtung, Taiwan, Feb - Mar, 2024.
- 2023 T-POMDA, Central Taiwan, Feb 28 - Mar 2, 2023.
- 2022 T-POMDA, Central Taiwan, Feb 27 - Mar 1, 2022.
- 2021 Taiwan atmospheric PBL Observation, Modeling, and Data Assimilation experiments (2021 T-POMDA), Central Taiwan, Mar 16 - 20, 2021.

3. Projects

2017- Present: Micro-Pulse Lidar and Aerosol automatically observation network operation, maintenance, and data analyzing, Ministry of Environment, Taiwan.

- 王聖翔(2024) · 113-114 年光達監測網與氣膠自動監測網操作維護及資料解析計畫 · 環境部。(協同研究)
- 王聖翔(2023) · 112-113 年光達監測網與氣膠自動監測網操作維護及資料解析計畫 · 環保署。
- 王聖翔(2022) · 111 年微脈衝雷射雷達監測網與氣膠自動監測網操作維護及資料解析專案計畫 · 環保署。
- 王聖翔(2021) · 110 年微脈衝雷射雷達監測網與氣膠自動監測網操作維護及資料解析專案計畫 · 環保署。
- 王聖翔等(2020) · 109 年微脈衝雷射雷達系統操作維護及資料解析專案計畫 · 環保署。
- 王聖翔等(2019) · 108 年微脈衝雷射雷達系統操作維護及資料解析專案計畫 · 環保署。
- 王聖翔等(2018) · 微脈衝雷射雷達系統操作維護及資料解析計畫 · 環保署。
- 王聖翔等(2017) · 微脈衝雷射雷達系統操作維護計畫 · 行政院環保署。

2016-2017: Lulin Atmospheric Background Station (LABS), Taiwan EPA/NSC/NCU.

- 林能暉等 · 2016 : 鹿林山與偏遠離島背景測站國際合作科技研究及操作維護。行政院環境保護署。

4. American Geophysical Union (AGU) membership

Award and Honor

- 2024 The Honorable Mention of Poster presentation. *ICAST 2024, Yilan, Taiwan.*
- 2024 The Phi Tau Phi Scholastic honor, Society of the Republic of China.
- 2023 The Second Place Award of Oral presentation. *ICAST 2023, Hsinchu, Taiwan.*
- 2023 The Third Place Award of Poster presentation. *Space Science and Engineering Student Presentation, Taoyuan, Taiwan.*
- 2019 The First Place Award of presentation. *Atmospheric Sciences Discipline Annual Meeting, Taoyuan, Taiwan.*
- 2018 Best Oral Presentation. *DUST 2018, Bari, Italy.*