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EDUCATION

Ph.D. in Physics, Institute of Physics and Astronomy, National Central University, Taiwan, 1997/9 – 2002/12

M.A. in Physics, Institute of Physics, National Central University, Taiwan, 1994/9 – 1996/6

B.A. in Physics, Department of Physics, National Central University, Taiwan, 1987/9 -- 1992/6

Experience

Research Specialist, Research Center For Environmental Changes, Academia Sinica, Taiwan, 2019-current

Associate Research Specialist, Research Center For Environmental Changes, Academia Sinica, Taiwan, 2015-2019

Assistant Research Specialist, Research Center For Environmental Changes, Academia Sinica, Taiwan, 2009-2015

Visiting Scientist, Atmospheric Sciences Research Center, State University of New York in Albany, USA, Mar. 2009 - Jan 2010

Post-Doctoral Fellow, Research Center For Environmental Changes, Academia Sinica, Taiwan — 2003-2009

Adjunct Assistant Professor, General Education center, Ching Yun University, Chung-li, Taiwan— 2004-2005

Research Assistant, Institute of Physics, National Central University, Taiwan — 1996-1997

Soldier, Airborne Troop and Special Operation Brigade, Taiwan — 1992-1994

RESEARCH INTERESTS

Laser Remote Sensing; Atmospheric Optics; Aerosol Optics; Small Particle Scattering; Laser Spectroscopy; Non-linear Optics; Aerosol Hygroscopicity

PROFESSIONAL SERVICES

1. Lidar development and construction: aerosol Raman/depolarization lidar, ozone lidar, Doppler lidar, temperature lidar
2. Lidar inversion algorithm
3. Atmospheric profiling; Boundary layer meteorology
4. Aerosol measuring and monitoring
5. Doppler Wind Lidar
6. Providing observation data of mobile lidars (intensive field campaign) and permanent lidars at Taipei (inside the campus of National Taiwan University) and Cape Fuguei (at the north tip of Taiwan)

PUBLICATIONS

Technical Reports

- **Wei-Nai Chen**, Tian-Ren Yang, Li-Ting Chen, “Evaluation the technique of Coherent Lidar Wind Profiler”, RCEC Academia Sinica, Oct., 2018
*In this technical report, all laboratory experiments (beat experiment and doppler lidar experiment) and validation of WindPrint S-4000 are conducted by myself and my team crews). Where the Doppler lidar experiment was cooperated with Industrial Technology Research Institute (supporting pulse single frequency laser and FPGA programing).
- **Wei-Nai Chen** and M. Roja Raman, “Developing a Near Range Lidar System”, RCEC Academia Sinica, Jun. 2014
- **Wei-Nai Chen**, “Low Tropospheric Temperature measurements using a pure rotational Raman Lidar in UV”, RCEC Academia Sinica, Jun. 2010
- Min-Suk Bae and **Wei-Nai Chen**, “Comparison of CPC”, ASRC SUNY Albany, Sep. 2009
- **Wei-Nai Chen**, “Laser Remote Sensing”, RCEC Academia Sinica, Jun. 2008

Recent Publication (2019-2014) [*: corresponding author]

1. Yu-Chieh Chen, Charles C.-K.Chou, Yu-Jen Tsai, Shih-Yu Chang, **Wei-Nai Chen** (2019). The hourly characteristics of aerosol chemical compositions under fog and high particle pollution events in Kinmen. **ATMOSPHERIC RESEARCH**, 223, 132-141.
2. Yu-Chieh Chen, Charles C.-K.Chou, Yu-Jen Tsai, Shih-Yu Chang, **Wei-Nai Chen** (2019). Impacts of holiday characteristics and number of vacation days on “holiday effect” in Taipei: Implications on ozone control strategies. **ATMOSPHERIC ENVIRONMENT**, 292, 357-369.
3. Yu-Chieh Chen, Chih-Chung Chang, **Wei-Nai Chen**, Yu-Jen Tsai, Shih-Yu Chang (2018). Determination of the vertical profile of aerosol chemical species in the microscale urban environment. **ENVIRONMENTAL POLLUTION**, 243B, 1369-1367.
4. P. Prasad, M.Roja Raman, M.Venkat Ratnam, **Wei-Nai Chen**, S. Vijaya Bhaskar, Raoa Mukund, M. Gogoid Sobhan Kumar, Kompalli, K.Sarat Kumar, S.Suresh Babu (2018). Characterization of atmospheric Black Carbon over a semi-urban site of Southeast India: Local sources and long-range transport. **Atmospheric Research**, 213(15), 411-421.
5. Cheng-Chih Lin, **Wei-Nai Chen**, Adrian M. Loftus, Chuan-Yao Lin, Yen-Ta Fu, Chi-Ming Peng, Ming-Cheng Yen (2017). Influences of the Long-Range Transport of Biomass-Burning Pollutants on Surface Air Quality during 7-SEAS Field Campaigns. **AEROSOL AND AIR QUALITY RESEARCH**, 17(10), 2595-2607.
6. Ta-Chih Hsiao*, **Wei-Nai Chen**, Wei-Cheng Ye, Neng-Huei Lin, Si-Chee Tsay, Tang-Huang Lin, Chung-Te Lee, Ming-Tung Chuang (2017). Aerosol optical properties at the Lulin Atmospheric Background Station in Taiwan and the influences of long-range transport of air pollutants. **ATMOSPHERIC ENVIRONMENT**, 150, 366-378. (SCI) (IF: 3.629; SCI ranking: 18.8%,21.4%)
7. Ta-Chih Hsiao*, Wei-Cheng Ye, Sheng-Hsiang Wang, Si-Chee Tsay, **Wei-Nai Chen**, Neng-Huei Lin, Chung-Te Lee, Hui-Ming Hung, Ming-Tung Chuang, Somporn Chantara (2016). Investigation of the CCN Activity, BC and UVBC Mass Concentrations of Biomass Burning Aerosols during the 2013 BASELInE

Campaign. **AEROSOL AND AIR QUALITY RESEARCH**, 16, 2742-2756.

8. Sheng-Hsiang Wang · Ellsworth J. Welton · Brent N. Holben · Si-Chee Tsay · Neng-Huei Lin · David Giles · Sebastian A. Stewart · Serm Janjai · Xuan Anh Nguyen · Ta-Chih Hsiao · **Wei-Nai Chen** · Tang-Huang Lin · Sumaman Buntoung · Somporn Chantara · Wan Wiriya · (2015). Vertical Distribution and Columnar Optical Properties of Springtime Biomass-Burning Aerosols over Northern Indochina during 2014 7-SEAS Campaign. **AEROSOL AND AIR QUALITY RESEARCH**, 15(5).
9. I-Chun Tsai · Jen-Ping Chen · Candice Shi-Chun · Lung · Nan Li · **Wei-Nai Chen** · Tzung-May Fu · Chih-Chung Chang · Gong-Do Hwang · (2015). Sources and formation pathways of organic aerosol in a subtropical metropolis during summer. **ATMOSPHERIC ENVIRONMENT**, 117, 51-60.
10. I-Chun Tsai, Jen-Ping Chen*, Yi-Chiu Lin, Charles Chung-Kuang Chou, **Wei-Nai Chen** (2015). Numerical investigation of the coagulation mixing between dust and hygroscopic aerosol particles and its impacts. **J. GEO. RES.**, 10.1002/2014JD022899.
11. **Wei-Nai Chen**, Yu-Chieh Chen, Chung-Yih Kuo, Chun-Hung Chou, Chung-Hao Cheng, Chun-Chieh Huang, Shih-Yu Chang, M. Roja Raman, Wen-Lin Shang, Tzu-Yao Chuang, Su-Ching Liu (2014). The real-time method of assessing the contribution of individual sources on visibility degradation in Taichung. **SCIENCE OF THE TOTAL ENVIRONMENT**, 497-498, 219-228.
12. Chuan-Yao Lin, Chun Zhao , Xiaohong Liu, Neng-Huei Lin, **Wei-Nai Chen** (2014). Modelling of long-range transport of Southeast Asia biomass- burning aerosols to Taiwan and their radiative forcings over East Asia. **TELLUS SERIES B**, 66, 23733.
13. Fujung Tsai, Tu JY, Hsu SC, **Wei-Nai Chen** (2014). Case study of the Asian dust and pollutant event in spring 2006. **SCIENCE OF THE TOTAL ENVIRONMENT**, 478, 163-174.
14. M. Roja Raman and **Wei-Nai Chen** * (2014). Trends in Monthly Tropopause Characteristics Observed over Taipei, Taiwan. **JOURNAL OF THE ATMOSPHERIC SCIENCES**, 71, 1323-1338.
15. Fu-Jung Tsai and **Wei-Nai Chen** (2014). Comparison of the Synoptic Environments Conducive to Eastward Versus Southeastward Transport of Asian Dust Events. **Advances in Meteorology**, Article ID 467659.
16. Hui-Ming Hung, Wan-Jung Lu, **Wei-Nai Chen**, Chih-Chung Chang, Charles C.- K. Chou, Po-Hsiung Lin (2014). Enhancement of the hygroscopicity parameter kappa of rural aerosols in northern Taiwan by anthropogenic emissions. **ATMOSPHERIC ENVIRONMENT**, 84, 78-87.