Curriculum Vitae

Name: Ru-Jin Huang, Prof. Dr. (Chinese Academy of Sciences, Institute of Earth Environment)

Date of Birth: 18 Dec 1979

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Academic Qualifications

2006.06-2009.05, PhD, Atmospheric Analytical Chemistry, University of Mainz, Germany, Mentor: Prof. Dr. Thorsten Hoffmann

2002.09-2005.07, Master, Analytical Chemistry, Xiamen University, China, Mentor: Prof. Dr. Xiaoru Wang/Prof. Zhixia Zhuang

1998.09-2002.07, Bachelor, Analytical Chemistry, Xiamen University, China, Mentor: Prof. Zhixia Zhuang

Professional Experience

2015.01-to date, Professor, Key Laboratory of Aerosol Chemistry and Physics, Institute of Earth Environment, Chinese Academy of Sciences

2013.01-2016.12, PSI Fellow/visiting Scientist, Laboratory of Atmospheric Chemistry, Paul Scherrer Institute, Switzerland, Dr. Andre Prevot/Prof. Dr. Urs Baltensperger group

2012, Three months Visiting Scientist, Department of Atmospheric Sciences, Center for Atmospheric Chemistry and Environment, Texas A&M University, USA, Prof. Dr. Renyi Zhang group

2011.01-2012.12, Government of Ireland Research Fellow, Centre for Climate & Air Pollution Studies, National University of Ireland, Galway, Prof. Dr. Colin O'Dowd group

2010.01-2010.12, Postdoctoral, Institute for Atmospheric and Environmental Science, University of Frankfurt, Prof. Dr. Andreas Engel group

2009.06-2009.12, Postdoctoral, Institute for Inorganic and Analytical Chemistry, University of Mainz, Prof. Dr. Thorsten Hoffmann group

2005-2006, Research Assistant, Key lab of Analytical Sciences of the Ministry of Education, China, Prof. Dr. Xiaoru Wang group

Research Experience

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- Formation and aging of secondary organic aerosol
- Brown carbon and black carbon
- New particle formation
- Marine and urban atmosphere
- Air pollution and health
- Analytical chemistry and mass spectrometry

Honor, Awards and Professional Service

2020 China Youth Science and Technology Award (Distinguished)

2019 National Science Fund for Distinguished Young Scholars

2019 National Leading Scientists for the Ten-Thousand Talents Program

2019 "Excellence" in the final review of the CAS Hundred Talents Program

2019 Awardee of the "from 0 to 1" innovation program (10-year excellence) of the Chinese Academy of Sciences

2018 Young Scientist Award of the Chinese Academy of Sciences

2018 Schmauss Award (GAeF)

2017 Asian Young Aerosol Scientist Award

2016 China Young Scientist Award of Particuology

2016 Awardee of the one-hundred talents program of Shannxi province

2015 Awardee of the One-Thousand Young Talents Program of China

2015 China Young Aerosol Scientist Award

2010 rated 1st in the IRC EMPOWER Fellowship Award in Earth/Environment (2009-2010 call, success rate <8%)

2009 Chinese Government Award for Outstanding Student Abroad

2006-2009 3-year scholarship awarded by the German Research Foundation (DFG)

Peer reviewer of journal papers for *Science*, *Nature*, *Nature Geoscience*, *Nature Communications*, *Atmospheric Chemistry and Physics*, *Atmospheric Measurement Techniques*, *Environmental Science & Technology*, *Geophysical Research Letters*, *Journal of Geophysical Research-Atmospheres*, *Journal of Aerosol Science*, *Atmospheric Environment*, *Atmospheric Research*, *Environmental International*, *Environmental Pollution*, *Urban Climate*, *Science of the Total Environment*, *etc.*

Peer reviewer of proposals from the Research Grants Council (RGC) of Hong Kong, the National Natural Science Foundation of China (NSFC), Poland National Science Center, European Research Council (ERC).

Projects (PI and Co-PI, > 30 M CNY)

1. "Organic aerosol" National Science Fund for Distinguished Young Scholars, National Scientific Foundation of China (NSFC), 4.0 M CNY, 2020.01-2025.12 (PI).
2. "Formation of secondary organic aerosol in the air pollution complex in northern China", from 0 to 1 innovation program (10-year excellence) of the Chinese Academy of Sciences, 6.0 M CNY, 2019.09-2028.12 (PI).

15. "The key formation mechanisms of SOA and effects on haze pollution", Priority Program of the Chinese Academy of Sciences, 2.0 M CNY, 2014-2015 (Co-PI).
16. The Ubbo Emmius Programme for joint PhD student (The Netherlands), 2014 (Co-PI).
17. "Aircraft exhaust: Primary emissions and secondary aerosol production potential", European Commission-PSI COFUND, 01.2013-12.2014 (PI).
18. "Particle precursor gases in the coastal atmosphere", IRC Foundation, Ireland, 01.2011-12.2012 (PI).
19. "Atmospheric inorganic and organic halogen compounds from surface seawater", the EU-FP7 "ASSEMBLE" short-term visiting grant, 2012.
20. "Reaction cycling of particulate iodine in the marine boundary layer-a chamber study", the EU COST-735 "short term scientific missions", 02.2011-04.2011.
21. "Activated halogen compounds release from seaweed", the EU-FP7 "ASSEMBLE" short-term visiting grant, 2010.

Publication (H-index 48, cites >9800)

High profile

1. Huang, R. J., Zhang, Y. L., Bozzetti, C., Ho, K. F., Cao, J. J., Han, Y. M., Dällenbach, K. R., Slowik, J. G., Platt, S. M., Canonaco, F., Zotter, P., Wolf, R., Pieber, S. M., Bruns, E. A., Crippa, M., Ciarelli, G., Piazzalunga, A., Schwikowski, M., Abbaszade, G., Schnelle-Kreis, J., Zimmermann, R., An, Z. S., Szidat, S., Baltensperger, U., El Haddad, I., Prévôt, A. S. H.: High secondary aerosol contribution to particulate pollution during haze events in China, ***d*** , 514, 218-222, 2014. (cites >2100)
2. Lin, C., Huang, R. J.*, Ceburnis, D., Buckley, P., Preissler, J., Wenger, J., Rinaldi, M., Facchini, M. C., O'Dowd, C.*, Ovadnevaite, J.: Extreme air pollution from residential solid fuel burning, ***d E e*** , 1, 512-517, DOI:10.1038/s41893-018-0125-x, 2018.
3. Platt, S. M., El Haddad, I., Pieber, S. M., Huang, R. J., Zardini, A. A., Clairotte, M., Suarez-Bertoa, R., Barmet, P., Pfaffenberger, L., Wolf, R., Slowik, J. G., Fuller, S. J., Kalberer, M., Chirico, R., Dommen, J., Astorga, C., Zimmermann, R., Marchand, N., Hellebust, S., Temime-Roussel, B., Baltensperger, U., Prévôt, A. S. H.: Two-stroke scooters are a dominant source of air pollution in many cities, ***d a*** , 5, 3749, DOI: 10.1038/ncomms4749, 2014.
4. An, Z. S., Huang, R. J., Zhang, R. Y., Tie, X. X., Li, G. H., Cao, J. J., Zhou, W. J., Shi, Z. G., Han, Y. M., Gu, Z. L., Ji, Y. M.: Severe haze in Northern China: A synergy of anthropogenic emissions and atmospheric processes, ***B E***, 116, 8657-8666, 2019.

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5. Ni, H. Y., Huang, R. J.*, Pieber, S., Corbin, J., Stefenelli, G., Pospisilova, V., Klein, F., Gysel-Beer, M., Yang, L., Baltensperger, U., El Haddad, I., Slowik, J., Cao, J. J., Prevot, A., Dusek, U.: Brown carbon in primary and aged coal combustion emission, ***da E F a*** , 55, 5701-5710, 2021.
6. Ni, H. Y., Huang, R. J.*, Yao, P., Cosijn, M. M., Kairys, N., Zhong, H. B., Dusek, U.*: Organic aerosol formation and aging processes in Beijing constrained by size-resolved measurements of radiocarbon and stable isotopic 13C, ***da*** , DOI: 10.1016/j.envint.2021.106890, 2021.
7. Lin, C. S., Huang, R. J.*, Duan, J., Xu W.: Primary and secondary organic nitrate in northwest China: A case study, ***da E F a*** , https://doi.org/10.1021/acs.estlett.1c00692, 2021.
8. Wang, K., Huang, R. J.*, Brüggemann, M., Zhang, Y., Yang, L., Ni, H., Guo, J., Wang, M., Han, J., Bilde, M., Glasius, M., Hoffmann, T.*: Urban organic aerosol composition in Eastern China differs from North to South: Molecular insight from a liquid chromatography-Orbitrap mass spectrometry study, ***ae B e*** , 21, 9089-9104, 2021.
9. Yuan, W., Huang, R. J.*, Yang, L., Wang, T., Duan, J., Guo, J., Ni, H., Chen, Y., Chen, Q., Li, Y., Dusek, U., O'Dowd, C., Hoffmann, T.: Measurement report: $PM_{2.5}$-bound nitrated aromatic compounds in Xi'an, Northwest China: Seasonal variations and contributions to optical properties of brown carbon, ***ae B e*** , 21, 3685-3697, 2021.
10. Xu, W., Fossum, K. N., Ovadnevaite, J., Lin, C., Huang, R. J.*, O'Dowd, C.*, Ceburnis, D.: The impact of aerosol size-dependent hygroscopicity and mixing state on the cloud condensation nuclei potential over the north-east Atlantic. ***ae B e*** , 21, 8655-8675, 2021.

11. Yuan, W., Huang, R. J.*, Yang, L., Ni, H. Y., Wang, T., Cao, W. J., Duan, J., Guo, J., Huang, H. B., Hoffmann, T.: Concentrations, optical properties and sources of humic-like substances (HULIS) in fine particulate matter in Xi'an, Northwest China, *E Fa da*, 789, 147902, 2021
12. Duan, J., Huang, R. J.*, Gu, Y. F., Lin, C. S., Zhong, H. B., Wang, Y., Yuan, W., Ni, H. Y., Yang, L., Chen, Y., Worsnop, D. R., O'Dowd, C.: The formation and evolution of secondary organic aerosol during summer in Xi'an: Aqueous phase processing in fog-rain days, *E Fa da*, 756, 144077, 2021
13. Duan, J., Huang, R. J.*, Chang, Y. H., Zhong, H. B., Gu, Y. F., Lin, C. S., Hoffmann, T., O'Dowd, C.: Measurement report of the change of PM2.5 composition during the COVID-19 lockdown in urban Xi'an: enhanced secondary formation and oxidation, *E Fa da*, 791, 148126, 2021
14. Zhong, H. B., Huang, R. J.*, Chang, Y. H., Duan, J., Lin, C. S., Chen, Y.: Enhanced formation of secondary organic aerosol from photochemical oxidation during the COVID-19 lockdown in a background site in Northwest China, *E Fa da*, 778, 144947, 2021.
15. Huang, R. J.*, Yuan, W., Wang, T., Cao, W., Wang, Y., Lin, C., Yang, L., Guo, J., Ni, H., Wu, F.: Chemical signature and fractionation of trace elements in fine particles from anthropogenic and natural sources. *da E*, 2021.
16. Yao, P., Ni, H. Y., Paul, D., Masalaite, A., Huang, R. J.*, Meijer, H. A. J., Dusek, U.*: An automated method for thermal-optical separation of aerosol organic/elemental carbon for 13C analysis at the sub-μgC level: A comprehensive assessment, *E Fa da*, 804, 150031, 2021.
17. Zhang, Y., Wang, K., Tong, H. J., Huang, R. J., Hoffmann, T.: The maximum carbonyl ratio (MCR) as a new index for the structural classification of secondary organic aerosol components, *b a ee Eb da*, https://doi.org/10.1002/rcm.9113, 2021.
18. Zhu, C. S., Qu, Y., Huang, H., Chen, J., Dai, W. T., Huang, R. J., Cao, J. J.: Black carbon and secondary brown carbon, the dominant light absorption and direct radiative forcing contributors of the atmospheric aerosols over the Tibetan Plateau, Geophys. Res. Lett., 48, e2021GL092524. https://doi.org/10.1029/2021GL092524, 2021.
19. Wu, Y. F., Xia, Y. J., Zhou, C., Tian, P., Tao, J., Huang, R. J., Liu, D. T., Wang, X., Xia, X. G., Han, Z. W., Zhang, R. J.: Effect of source variation on the size and mixing state of black carbon aerosol in urban Beijing from 2013 to 2019: Implication on light absorption, *da Ba*, 270, 116089, 2021.
20. Wu, Y. F., Li, J. W., Jiang, C., Xia, Y. J., Tao, J., Tian, P., Zhou, C., Wang, C. Y., Xia, X. G., Huang, R. J., Zhang, R. J.: Spectral absorption properties of organic carbon aerosol during a polluted winter in Beijing, China, *E Fa da*, 755, 142600, 2021.
21. Wang, L. W., Slowik J. G., Yandong Tong, Y., Gu, Y. F., Rai, P., Qi, L., Stefenelli, G., Baltensperger, U., Huang, R. J., Cao, J. J., Prévôt, A. S. H.: Characteristics of wintertime VOCs in urban Beijing: Composition and source apportionment, *ae da*, 9, 100100, 2021.
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23. Rai, P., Slowik, J. G., Furger, M., El Haddad, I., Visser, S., Tong, Y., Singh, A., Wehrle, G., Kumar, V., Tobler, A. K., Bhattu, D., Wang, L., Ganguly, D., Rastogi, N., Huang, R. J., Necki, J., Cao, J., Tripathi, S. N., Baltensperger, U., Prévôt, A. S. H.: Highly time-resolved measurements of element concentrations in PM_{10} and $PM_{2.5}$: Comparison of Delhi, Beijing, London, and Krakow, *ae B e*, 21, 717-730, 2021.
24. Rai, P., Furger, M., Slowik, J. G., Zhong, H., Tong, Y., Wang, L., Duan, J., Gu, Y. F., Qi, L., Huang, R. J., Cao, J. J., Prévôt, A. S. H.: Characteristics and sources of hourly elements in PM_{10} and $PM_{2.5}$ during wintertime in Beijing, *da Ba*, 278, 116865, 2021.
25. Peng, C., Razafindrambinina, P. N., Malek, K. A., Chen, L., Wang, W., Huang, R. J., Zhang, Y., Ding, X., Ge, M., Wang, X., Asa-Awuku, A. A., Tang, M.: Interactions of organosulfates with water vapor under sub- and supersaturated conditions, *ae B e*, 21, 7135-7148, 2021.
26. Liao, K. R., Chen, Q., Liu, Y., Li, Y. J., Lambe, A. T., Zhu, T., Huang, R. J., Zheng, Y., Cheng, X., Miao, R. Q., Huang, G. C., Khuzestani, R. B., Jia, T. J.: Secondary organic aerosol formation of fleet vehicle emissions in China: Potential seasonality of spatial distributions, *da E F a*, 55, 7276-7286, 2021.
27. Tong, Y., Pospisilova, V., Qi, L., Duan, J., Gu, Y., Kumar, V., Rai, P., Stefenelli, G., Wang, L., Wang, Y., Zhong, H., Baltensperger, U., Cao, J., Huang, R.

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29. Huang, R. J.*, He, Y., Duan, J., Li, Y. J., Chen, Q., Zheng, Y., Chen, Y., Hu, W. W., Lin, C. S., Ni, H. Y., Dai, W. T., Cao, J. J., Wu, Y. F., Zhang, R. J., Xu, W., Ovadnevaite, J., Ceburnis, D., Hoffmann, T., O'Dowd, C. D.: Contrasting sources and processes of particulate species in haze days with low and high relative humidity in winter time Beijing, *ae B e*, 20, 9101-9114, 2020.
30. Huang, R. J.*, Duan, J., Li, Y. J.*, Chen, Q.*, Chen, Y., Tang, M., Yang, L., Ni, H. Y., Lin, C. S., Xu, W., Liu, Y., Chen, C. Y., Yan, Z., Ovadnevaite, J., Ceburnis, D., Dusek, U., Cao, J. J., Hoffmann, T., O'Dowd, C. D.: Effects of NH_3 and alkaline metals on the formation of particulate sulfate and nitrate in wintertime Beijing, *E Fa da*, 717, 137190, 2020.
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32. Yuan, W., Huang, R. J.*, Yang, L., Guo, J., Chen, Z., Duan, J., Wang, T., Ni, H., Han, Y., Li, Y. J., Chen, Q., Chen, Y., Hoffmann, T., O'Dowd, C.: Characterization of the light absorbing properties, chromophores composition and sources of brown carbon aerosol in Xi'an, Northwest China, *ae B e*, 20, 5129-5144, 2020.
33. Gu, Y. F., Huang, R. J.*, Li, Y. J., Duan, J., Chen, Q.*, Hu, W. W., Zheng, Y., Lin, C. S., Ni, H. Y., Dai, W. T., Cao, J. J., Liu, Q., Chen, Y., Chen, C. Y., Ovadnevaite, J., Ceburnis, D., O'Dowd, C.: Chemical nature and sources of fine particles in urban Beijing: Seasonality and formation mechanisms, *da* 140, 105732, 2020.
34. Zhong, H. B., Huang, R. J.*, Duan, J., Lin, C. S., Gu, Y. F., Wang, Y., Li, Y. J., Zheng, Y., Chen, Q., Chen, Y., Dai, W. T., Ni, H. Y., Chang, Y. H., Worsnop, D. R., Xu, W., Ovadnevaite, J., Ceburnis, D., O'Dowd, C.: Seasonal variations in the soures of organi aerosol in Xi'an, Northwest China: The importance of biomass burning and secondary formation, *E Fa da*, 737, 139666, 2020.
35. Wang, T., Huang, R. J.*, Li, Y. J., Chen, Q., Chen, Y., Yang, L., Guo, J., Ni, H. Y., Hoffmann, T., Wang, X. M., Mai, B. X.: One-year characterization of organic aerosol markers in urban Beijing: Seasonal variation and spatiotemporal comparison, *E Fa da*, 743, 140689, 2020.
36. Lin, C. S., Huang, R. J.*, Xu, W., Duan, J., Zheng, Y., Chen, Q., Hu, W. W., Li, Y. J., Ni, H. Y., Wu, Y. F., Zhang, R. J., Cao, J. J., O'Dowd, C.: Comprehensive source apportionment of submicron aerosol in Shijiazhuang, China: secondary aerosol formation and holiday effects, *E d Eb*, 4, 947-957, 2020.
37. Lin, C. S., Ceburnis, D., Xu, W., Heffernan, E., Hellebust, S., Gallagher, J., Huang, R. J.*, O'Dowd, C., Ovadnevaite, J.: The impact of traffic on air quality in Ireland: insights from simultaneous kerbside and sub-urban monitoring of submicron aerosols, *ae B e*, 20, 10513-10529, 2020.
38. Wang, K., Huang, R. J.*, Brüggemann, M., Zhang, Y., Yang, L., Ni, H., Guo, J., Wang, M., Han, J., Bilde, M., Glasius, M., Hoffmann, T.: Urban organic aerosol composition in Eastern China differs from North to South: Molecular insight from a liquid chromatography-Orbitrap mass spectrometry study, *ae B e*, 20, 2020.
39. Xu, W., Ovadnevaite, J., Fossum, K. N., Lin, C., Huang, R. J.*, O'Dowd, C., Ceburnis, D.: Aerosol hygroscopicity and its link to chemical composition in coastal atmosphere of Mace Head: marine and continental air masses, *ae B e*, 20, 3777-3791, 2020.
40. Chang, Y. H., Huang, R. J.*, Ge, X. L., Huang, X. P., Hu, J. L., Duan, Y. S., Zou, Z., Liu, X. J., Lehmann, M. F.: Puzzling haze events in China during the Coronavirus (COVID-19) shutdown, *ab e e*, 47, e2020GL088533, 2020.
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45. Peng, C., Yang, F. M., Tian, M., Shi, G. M., Li, L., Huang, R. J., Yao, X. J., Luo, B., Zhai, C. Z., Chen, Y.: Brown carbon aerosol in two megacities in the Sichuan Basin of southwestern China: Light absorption properties and implications, *E Fa da* , 719, 137483, 2020.
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