



Gang (Ian)

Chen

PhD candidate



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5232, Villigen, Switzerland



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EDUCATION

PhD / Environmental Science

Eidgenössische Technische Hochschule Zürich (ETHz)

MASc. / Chemical Engineering & Applied Chemistry

University of Toronto (U of T)

Thesis: [Method Development for Measuring Black Carbon \(BC\) Using a Smartphone Camera](#)

BESc. / Chemical Engineering

Western University (UWO)

Languages

A2/C2

German

7/9

English (IELTS)

10 / 10

Mandarin (Native speaker)

Certifications and Training

Canadian/Swiss Driver's Licenses, Chemical and Lab Safety Training, and Teaching Assistant Training

IT Skills

Proficiency in MATLAB, Igor, MS office, Visio, Aspen Hysys, Aspen Plus, and entry-level in Python

Interests

Basketball (Lakers fan), hiking, biking, and movies

BIO

A motivated PhD. candidate possesses extensive research and teaching experiences.

AWARDS

- [GAef Student Travel Grant](#) at EAC 2019
- Chemical Engineering Fellowship at U of T 2016-2018
- Dean's Honor List at UWO 2014-2016

MEMBERSHIPS

- American Association for Aerosol Research (AAAR)
- [Gesellschaft für Aerosolforschung \(GAeF\)](#)

RESEARCH EXPERIENCE

PhD Student

2022 Paul Scherrer Institute (PSI) / Villigen, AG, Switzerland / 2018-Current

Thesis Advisor: Prof. Dr. André S.H. Prévôt

Investigations of the Sources of European Atmospheric Aerosols using Novel Source Apportionment Techniques

2018

- European Overview of the Organic Aerosol Sources using [SoFi-Pro](#)
- Gained more experience in source apportionment using ACSM
- Development of the Real-time Source Apportionment Technique

Research Assistant

2016 U of T / Toronto, ON, Canada / 2016-2018

Thesis Advisor: Prof. Arthur W.H. Chan

Method Development for Measuring Black Carbon (BC) using a Smartphone Camera

- Gained proficiency in MATLAB
- Obtained a promising model to predict BC loading based on pixel values in the image of filter samples using machine learning
- Improved presentation skills through platform and poster presentations at scientific conferences
- Supervised a summer student by helping him to make weekly and monthly plans

Research Assistant

UWO / London, ON, Canada / 2015-2016

Thesis Advisor: Prof. Chunbao (Charles) Xu

Synthesis of Carboxymethyl Cellulose (CMC) Using Bleached Crude Cellulose Derived from Cornstalk via Organosolv Fractionation

- Gained familiarity with analytical instruments (e.g., FT-IR, DSC, and HPLC) for chemical analysis
- Developed data analysis skills
- Reinforced laboratory techniques by conducting intensive laboratory work



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TEACHING EXPERIENCE

Teaching Assistant

U of T / Toronto, ON, Canada / 2017-2018

- Developed better skills to communicate with students, instructor, and colleagues
- Taught students using the Socratic method of questioning induce learning • Re-designed the undergraduate laboratory to better achieve education goals
- Improved teaching skills by lecturing, demonstrating, grading, and answering questions from students

Tutor

Jinhua, Zhejiang, China / 2016

Mathematics and Science Tutor for High School Students

- Taught 5 students for 3 months
- Developed skills to interact with students

Basketball Coach

Jinhua, Zhejiang, China / 2016

Coach of a Youth Basketball Summer Camp

- Coached more than 50 teenagers for 1 month
- Educated students to build physicality and competitiveness by playing basketball
- Helped trainees to develop interests in basketball

PUBLICATION

Chen, G.*, Sosedova, Y., Canonaco, F., Fröhlich, R., Tobler, A., Vlachou, A., Dallenbach, K. R., Bozzetti, C., Hueglin, C., Graf, P., Baltensperger, U., Slowik, J. G., Haddad, I. El and Prevot, A. S. H.: Time dependent source apportionment of submicron organic aerosol for a rural site in Switzerland using rolling PMF window., 2020. (in prep.)

Canonaco, F., Tobler, A., **Chen, G.***, Sosedova, Y., Slowik, J. G., Bozzetti, C., Daellenbach, Kaspar Rudolf Haddad, I. El, Crippa, M., Huang, R.-J., Furger, M., Baltensperger, U. and Prevot, A. S. H.: Source Finder Professional (SoFi Pro) allowing for time-dependent factor profiles and uncertainty assessment: application to one year of organic aerosol data, *Atmos. Meas. Tech. Discuss.*, doi:10.5194/amt-2020-204, 2020. (in review)

Heikkinen, L., Äijälä, M., Daellenbach, K. R., **Chen, G.***, Garmash, O., Aliaga, D., Graeffe, F., Rätty, M., Luoma, K., Aalto, P., Kulmala, M., Petäjä, T., Worsnop, D. and Ehn, M.: Eight years of sub-micrometre organic aerosol composition data from the boreal forest characterized using a machine-learning approach, *Atmos. Chem. Phys. Discuss.*, doi:10.5194/acp-2020-868, 2020. (in review)

Chen, G.*, Wang, Q., Fan, Y., Han, Y., Wang, Y., Urch, B., Silverman, F., Tian, M., Su, Y., Qiu, X., Zhu, T. and Chan, A. W. H. A. W. H.: Improved method for the optical analysis of particulate black carbon (BC) using smartphones, *Atmos. Environ.*, 224, 117291, doi:10.1016/j.atmosenv.2020.117291, 2020.

Shui, T., Feng, S., **Chen, G.***, Li, A., Yuan, Z., Shui, H., Kuboki, T. and Xu, C.: Synthesis of sodium carboxymethyl cellulose using bleached crude cellulose fractionated from cornstalk, *Biomass and Bioenergy*, 105, 51–58, doi:10.1016/j.biombioe.2017.06.016, 2017.



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PRESENTATIONS

GANG CHEN, [COLOSSAL Team](#), Investigations of the Spatial and Temporal Variations in Organic Aerosols Sources within Europe Using 24 Long-term ACSM Datasets, The American Association for Aerosol Research (AAAR) 38th Annual Conference, Online, 2020 (Oral Presentation)

GANG CHEN, [COLOSSAL Team](#), Investigations of the Spatial and Temporal Variations in Organic Aerosols Sources within Europe Using 24 Long-term ACSM Datasets, European Aerosol Conference (EAC), Online, 2020 (Oral Presentation)

GANG CHEN, Qi Wang, Yunfei Fan, Yiqun Han, Yanwen Wang, Bruce Urch, Frances Silverman, Mi Tian, Yushan Su, Xinghua Qiu, Tong Zhu, Arthur W.H. Chan, Improved method for the optical analysis of particulate black carbon (BC) using smartphones, European Aerosol Conference (EAC), Online, 2020 (Oral Presentation)

Alireza Moallemi, Sebastian Landwehr, Charlotte Robinson, Rafel Simó, GANG CHEN*, Robin Modini, Martin Schnaiter, Martin Gysel-Beer, Julia Schmale, Sources and Occurrence of Biological Aerosols over the Pristine Southern Ocean, European Aerosol Conference (EAC), Online, 2020 (Oral Presentation)

GANG CHEN, [COLOSSAL Team](#), European Overview for Source Apportionment of Organic Aerosol, *21st online meeting of the Task Force on Measurements and Modelling (TFMM)*. WMO, 2020 (Oral Presentation)

GANG CHEN, Francesco Canonaco, André S.H. Prévôt, A Comparison of Seasonal Factors and Residuals for SoFi Pro and Standard SoFi, [COST Action CA16109 COLOSSAL-Working Groups and Management Committee](#), Riga, Latvia, 2019 (Oral Presentation)

GANG CHEN, Francesco Canonaco, Yulia Sosedova, Kaspar R. Dallenbach, Jay G. Slowik, Urs Baltensperger, André S.H. Prévôt, The rolling results of one-year long data from three European sites, [COST Action CA16109 COLOSSAL-Working Groups and Management Committee](#), Riga, Latvia, 2019 (Oral Presentation)

GANG CHEN, Francesco Canonaco, André S.H. Prévôt, Updates of scandalized protocols for organic aerosol source apportionment via rolling PMF, [COST Action CA16109 COLOSSAL-Working Groups and Management Committee](#), Riga, Latvia, 2019 (Oral Presentation)

GANG CHEN, Francesco Canonaco, Yulia Sosedova, Kaspar R. Dallenbach, Jay G. Slowik, Urs Baltensperger, André SH Prévôt, Conducting Rolling PMF Analysis Using Source Finder Professional (SoFi Pro) for Different Sources of Organic Aerosols (OA) in Europe, European Aerosol Conference (EAC). Gothenburg, Sweden, 2019 (Oral Presentation)

GANG CHEN, Qi Wang, Yunfei Fan, Bruce Urch, Frances Silverman, Mi Tian, Yushan Su, Tong Zhu, Arthur W.H. Chan, Method Development for Measuring Black Carbon (BC) using a Smartphone Camera, *10th International Aerosol Conference (IAC)*. St. Louis, MO, USA, 2018 (Poster Presentation)

GANG CHEN, Mengxuan Cai, Bruce Urch, Frances Silverman, Yushan Su, Arthur W. H. Chan, Developing a particulate matter (PM)-indicating smartphone app using image analysis, *36th American Association for Aerosol Research (AAAR)*. Raleigh, NC, United States, 2017 (Poster Presentation)

GANG CHEN, Mengxuan Cai, Bruce Urch, Frances Silverman, Arthur W. H. Chan, Developing a particulate matter (PM)-indicating smartphone app using image analysis, *100th Canadian Chemistry Conference and Exhibition (CSC)*. Toronto, ON, Canada, 2017 (Platform Presentation)

GANG CHEN, Tao Shui, Zhongshun Yuan, Chunbao Xu, Synthesis of sodium carboxymethyl cellulose using bleached crude cellulose fractionated from cornstalk, *2016 Product Development Research Day held by Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)*. Guelph, ON, Canada, 2016 (Poster Presentation)