CURRICULUM VITAE
TAEWON T. HAN, Ph.D.

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Department of Environmental Sciences
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EDUCATION

Ph.D., Mechanical Engineering 2007
Texas A&M University, Dept. of Mechanical Engineering, College Station, TX
Thesis "Experimental and Numerical Studies of Aerosol Penetration through Screens". Advisor: Professor Andrew McFarland

M.S., Mechanical Engineering 2003
Texas A&M University, Dept. of Mechanical Engineering, College Station, TX
Thesis "Evaluation of Mixing in Three Duct Configurations and Development of a Generic Tee Plenum System (GTPS) Application to Single Point Aerosol Sampling". Advisor: Professor Denis O'Neal

M.A., Mechanical Design 1999
Keimyung University, Dept. of Mechanical Design, Taegu, South Korea
Thesis "Analysis of Flow and Heat Transfer in an Evaporator for the Automotive Air-Conditioner". Advisor: Professor Sung-Hoon Kim

B.E., Mechanical Design 1997
Keimyung University, Dept. of Mechanical Design, Taegu, South Korea

RESEARCH AND TEACHING EXPERIENCE

Assistant Research Professor (Jan. 2015 – Present)
Dept. of Environmental Sciences, Rutgers University, New Brunswick, NJ

Research

- Design and development of Advanced Sampler for Assessing Exposure to Biological Aerosols - CDC/ National Institute for Occupational Safety and Health (NIOSH)
- Design and development of a novel and self-contained personal electrostatic bioaerosol sampler (PEBS) – CDC/NIOSH
- Design and development of a novel personal nasal filter to improve respiratory health - Center for Environmental Exposures and Disease (CEED) and University Research Council

- Development and characterization of animal exposure chamber to study delivery of nanosized drugs for treatment of pulmonary fibrosis - National Heart, Lung, and Blood Institue (NHLBI)

Teaching

Guest Lecturer:

- Principles of Air Pollution (11:375:421)
- Air Sampling and Analysis Techniques (11:375:424/16:375:536)

Mentorship

- Research mentoring of graduate students in Dr. Mainelis' laboratory
- Thesis committee member of a Ph.D. student (Jennifer Therkorn), Department of Environmental Sciences, Rutgers University, 2016.
- Mentoring of four graduate students in a team that analyzes the potential of our patent (US Patent No 9,333,512) for forming a startup in the Collaborative for Technology Entrepreneurship and Commercialization (CTEC) program class, Rutgers Business School, Fall 2016 – Spring 2017.

Research Associate (Jan. 2011 – Dec. 2014)

Dept. of Environmental Sciences, Rutgers University, New Brunswick, NJ

Research

- Design and development of a novel and self-contained personal electrostatic bioaerosol sampler (PEBS) - CDC/NIOSH
- Development and characterization of animal exposure chamber to study delivery of nanosized drugs for treatment of pulmonary fibrosis - NHLBI
- Design and development of a field version of a novel electrostatics-based bioaerosol collector - CDC/NIOSH
- Design and development of a novel electrostatic collector for air purifier - Environmental Care & Energy Saving Technology Co., LTD project Continuing development and testing of the Electrostatic Battery for Emissions Control (ESBEC) - The incubation Factory and Rutgers University
- Evaluation of the 3000 LPM Wetted Wall Cyclone Sampler - WoongJin Co., LTD

Teaching

Guest Lecturer:

- Principles of Air Pollution (11:375:421), 2011 - 2014
- Air Sampling and Analysis Techniques (11:375:424/16:375:536), 2012 - 2014

Mentorship

- Research mentoring of graduate students in Dr. Mainelis' laboratory

Post-doctoral Fellow (Mar. 2007 - Dec. 2009)

Dept. of Indoor Environment & Dept. of Building Technologies, Environmental Energy Technologies Division (EETD), Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA

- Part of the DOE Roadmap for Compressorless Cooling in Data Centers - DOE/California Energy Commission (CEC)
- Performance comparison of Haiti charcoal cookstoves - LBNL

Post-doctoral Associate (Mar. 2007 – Dec. 2009)

Dept. of Environmental Sciences, Rutgers University, New Brunswick, NJ

- Advanced Electrostatic Sampler for Total Bioaerosols - CDC/NIOSH
- Bioluminescence method to characterize performance of biosamplers - The Multi-state Hatch
- Developed a protocol for rapid characterization of bioaerosol sampling devices using adenosine triphosphate (ATP) bioluminescence technique

Research Assistant (Aug. 2003 – Feb 2007), Ph.D. program

Dept. of Mechanical Engineering, Texas A&M University, College Station, TX

A. Experimental and Numerical Studies of Aerosol Penetration through Screens
- Evaluated aerosol deposition on various screens using both experimental method and computational Fluid Dynamics (CFD) techniques
- Generalized correlation developed to represent the aerosol deposition on Screens

B. Bioaerosol Sampling and Collection
- Designed and developed a bioaerosol inlet sampler as a primary component for a bio-agent detection system
- Iterated parameters for maximized collection performance

C. Developmental work and testing of customized aerosol device inlet, 400 L/min All Weather Inlet (AWI-400)
- Consulted for customizing an aerosol device inlet

Research Assistant (Aug. 2001 – July 2003), M.S. program

Dept. of Mechanical Engineering, Texas A&M University, College Station, TX

- Developed mixing device and technique to create conditions suitable for single point representative sample
- Investigation of an optimal sampling location at a stock or duct in the U.S. Department of Energy (DOE) facilities: Mixed Oxide Fuel Fabrication Facility (**MFFF**),Remote Handled Waste Facility (RHWF), and Tritium Extraction Facility (TEF)

Teaching Assistant (Aug. 2000 – Dec. 2001)
Dept. of Mechanical Engineering, Texas A&M University, College Station, TX

- Assisted and tutored the following courses: Fluid Mechanics, Heat Transfer, and Experimental Methods in Fluid Mechanics

Research Engineer (Mar. 1999 – July 2000)
The Center of Automotive Parts Technology (CAPT), Keimyung University, Taegu, South Korea

- Optimized flow pattern in an air-mixing module for Automotive Air-Conditioner using computational Fluid Dynamics (CFD) technique

Internship (Jan. 1999 – Feb. 1999)
SEGY ELECTRONIC Co. Ltd., Taegu, South Korea

Research Assistant (Mar. 1997 – Dec. 1998), M.A. program
Dept. of Mechanical Design, Keimyung University, Taegu, South Korea

- Iterated a model design for improving a performance using computational Fluid Dynamics (CFD) technique:
  - Evaluation and Development of Hot Water Pump
  - Development of Dilution Chamber of the Micro Dilution Tunnel for Diesel Emission
  - Analysis of Flow Characteristics in an Air-Mixing Module for Automotive Air-Conditioner

INVENTION DISCLOSURES AND PATENTS

Provisional Application (PCT/US62/530500) entitled "Nanofiber Nasal Filter" by Dr. Han, T. and Mainelis, G. (Filed).

Rutgers University Docket (RU Docket #2013-084), PCT International Application (PCT/US16/50635) entitled "Personal Electrostatic Bioaerosol Sampler (PEBS) with High Sampling Flow Rate" by Dr. Mainelis, G. and Dr. Han, T. (Filed).

Rutgers University Docket, amendment to existing US 8186235 patent (RU docket 05-088) entitled "Method and Device for the Collection of Airborne Particles and Their Concentration in Small Amounts of Liquid" by Drs. Mainelis, G. and Han, T. (Submitted).

Invention, "Electrostatic Screen Battery for Emission Control" by Drs. Mainelis, G. and Han, T., US Patent No 9,333,512, issued May 13, 2016**.**

RESEARCH GRANTS

Submitted

NIEHS (R21) 09/01/18-08/31/20
"Advanced Nanofiber Nasal Filter (NNF) to Improve Respiratory Health", $410,300.
Multiple PI model (Contact PI: Han, T. & PI: Mainelis, G.)
Role: PI.

ONGOING

NIOSH (R01) 08/01/16-07/31/19
"Advanced Sampler for Assessing Exposure to Biological Aerosols", $1,096,170.
Multiple PI model (Contact PI: Mainelis, G.)
Role: PI.

NIOSH Exploratory and/or Developmental Grant Program (R21) 09/01/14-01/31/18
"Personal Electrostatic Bioaerosol Sampler (PEBS) with High Sampling Flow Rate", $413,820.
Multiple PI model (Contact PI: Mainelis, G.)
Role: PI.

National Heart, Lung, and Blood Institue (NHLBI) 01/01/14-12/31/17
"Development and characterization of animal exposure chamber to study delivery of nanosized drugs for treatment of pulmonary fibrosis"
Minko T. (PI), Mainelis, G.(Co-PI)
Role: Researcher

COMPLETED

Center for Environmental Exposures and Disease (CEED) 07/01/15-3/31/16
"Design and development of a novel personal nasal filter to improve respiratory", $15,000.
Role: PI.

University Research Council 07/01/15-6/30/16
"Development of a novel nasal filter", $2,000.
Role: PI.

NIOSH (R01) 01/01/11-12/31/14
"Advanced Sampler for Measuring Exposure to Biological Aerosols", $771,906.
Mainelis, G. (PI.)
Role: Researcher

Environmental Care & Energy Saving Technology Co., LTD., South Kore 07/01/12-12/31/14
"A Novel Electrostatic Collector for Air Purifier", $107,600.
Role: PI.

Rutgers University and The Incubation Factory 02/01/12-06/30/14
"Electrostatic Screen Battery for Emissions Control (ESBEC)", $56,000.
Mainelis, G. (PI.)
Role: Co-PI.

Woongjin Co., LTD., South Korea 02/01/12-12/31/12
"Evaluation of the 3000 LPM Wetted Wall Cyclone Sampler", $13,000.
Role: PI.

AWARDS AND RECOGNITIONS

August 2014	Golden prize Award, 2014 US-Korea Conference (UKC), Intellectual Property (IP) forum competition
June 2014	2013 Excellence in Reviewing, Journal of Aerosol Science
Fall semester 1998	Scholarship based on Academic Achievement, in Keimyung University, South Korea
Fall semester 1998	Honor Research Assistantship, Dept. of Mechanical Engineering at Graduate School in Keimyung University, South Korea
Fall semester 1997	Scholarship based on Academic Achievement, in Keimyung University, South Korea
Fall semester 1997	Honor Research Assistantship, Dept. of Mechanical Engineering at Graduate School in Keimyung University, South Korea

PEER-REVIEWER FOR PROFESSIONAL JOURNALS

Aerosol Science and Technology
Analytical Chemistry
Atmospheric Environment
Biosystems Engineering
Building Simulation: An International Journal
Environmental Science and Pollution Research
HVAC&R Research
Industrial & Engineering Chemistry Research
Journal of Aerosol Science*
Journal of Fluid Engineering
Journal of the Air & Waste Management Association
Nature Nanotechnology
PLOS ONE
Science of the Total Environment

*awarded Excellence in Reviewing by the journal, 2013

PROFESSIONAL ACTIVITIES

Member, "Health-Related Aerosol Working Group" of the American Association for Aerosol Research (AAAR), 2012 - present
Attending NIH Regional Seminar in Baltimore, MD, June 26 - 28, 2013

RUTGERS ACTIVITIES

Became Associate Member of the Graduate program in Environmental Sciences, Department of Environmental Sciences, Rutgers University, 2016-present.

MEMBERSHIPS

Member, American Association for Aerosol Research, October 2005 - present
Member, Korean-American Scientists and Engineers Association (KSEA), February 2013 - present
Member, Air & Waste Management Association, July 2008 - July 2010

PUBLICATIONS

In preparation (data available, manuscript in preparation)
Legend: * - *corresponding author*

1. Han, T.*, Mainelis, G., Yang, L., and Lee, K. (2017) **Design and Development of a Novel Nano Nasal Filter (NNF) to Improve Respiratory Health**, Journal of Environmental Sciences, (To be submitted).

2. Han, T., Thomas, N., and Mainelis, G. (2017) **Bioaerosol Collection using a Self-Contained Personal Electrostatic Bioaerosol Sampler (PEBS)**, *Environmental Science and Technology*, (In preparation).

Peer-Reviewed Journal Articles
Legend: * - *corresponding author*

1. Han, T., Thomas, N., and Mainelis, G. (2017) **Design and Development of a Self-Contained Personal Electrostatic Bioaerosol Sampler (PEBS) with a Wire-to-Wire Charger**, *Aerosol Science and Technology*, 51: 903-915.

2. Calderón, L., Han. T., Yang, L., Subramaniam, P., Lee, K., Garfunkel, E., Schwander, S., Tetley, T.D., Baker, W., Georgopoulos, P.G., Ryan, M., Porter, A., Chung, K., Lioy, P.J., Zhang, J., and Mainelis, G. (2017) **Release of Airborne Particles and Ag and Zn Compounds from Nanotechnology-enabled Consumer Sprays: Implications for Inhalation Exposure**, *Atomospheric Environment*, 155: 85-96.

3. Han, T. and Mainelis, G. (2017) **Design and Development of an Electrostatic Screen Battery for Emission Control (ESBEC)**, *Journal of Aerosol Science*, 107: 74-83.

4. Han, T., Yun, S., and Seo, Y. (2016) **Investigation of a Cell-Type Electrostatic Precipitator (CESP) with Low Concentrations of Ozone**, *Journal of Engineering and Applied Science*, 11(23): 13692-13692.

5. Han, T., Zhen, H., and Mainelis G. (2016) **Evaluation of Electrostatic Screen Battery for Emission Control (ESBEC) with Actual Diesel Emission**, *Society of Automotive Engineers International Journal of Engines*, 9(4): 2312-2319.

6. Han, T., Zhen, H., Fennell, D.E., and Mainelis G.* (2015) **Design and Evaluation of the Field-Deployable Electrostatic Precipitator with Superhydrophobic Surface (FDEPSS) with High Concentration Rate**, *Aerosol and Air Quality Research*, 15: 2397-2408.

7. Han, T., Wren, M., DuBois, K., Therkorn, J., and Mainelis, G.* (2015) **Application of ATP-based Bioluminescence for Bioaerosol Quantification: Effect of Sampling Method**, *Journal of Aerosol Science*, 90:114-123.[4]

8. Pyrgiotakis, G., Vasanthakumar, A., Gao, Y., Eleftheriadou, M., Toledo, E., DeAraujo, A., McDevitt, J., Han, T., Mainelis, G., Mitchell, R., and Demokritou, P.* (2015) **Inactivation of Foodborne Microorganisms on Stainless Steel Surfaces and Tomatoes using Engineered Water Nanostructures (EWNS)**, *Environmental Science & Technology*, 49(6): 3737-3745.

9. Lask, K., Booker, K., Han, T., Granderson, J., Yang, N., Ceballos, C., and Gadgil, A.* (2015) **Performance Comparison of Charcoal Cookstoves for Haiti: Laboratory Testing with Water Boiling and Controlled Cooking Tests**, *Energy for Sustainable Development*, 26: 79-86.

10. Han, T., Fennell, D.E., and Mainelis G.* (2015) **Design and Optimization of the Electrostatic Precipitator with Superhydrophobic Surface (EPSS) Mark II for Bioaerosols**, *Aerosol Science and Technology,* 49: 210-219.

11. Zhen, H., Han, T., Fennell, D.E., and Mainelis, G.* (2014) **A Systematic Comparison of Four Bioaerosol Generators: Affect on Culturability and Cell Membrane Integrity when aerosolizing *Escherichia coli* bacteria**, *Journal of Aerosol Science,* 70(4):67-79.[3]

12. Zhen, H., Han, T., Fennell, D.E., and Mainelis, G.* (2013) **Release of Free DNA by Membrane-Impaired Bacterial Aerosols due to Aerosolization and Air Sampling**, *Applied and Environmental Microbiology*, 79(24): 7780-7789.

13. Seo, Y and Han, T*. (2013) **Assessment of Penetration through Vacuum Cleaners and Recommendation of Wet Cyclone Technology**, *Journal of the Air & Waste Management Association,* 63(4):453-461.

14. Mainelis, G., Seshadri, S., Garbuzenko, O.B., Han, T., Wang, Z., and Minko, T.* (2013) **Characterization and Application of a Nose-only Exposure Chamber for Inhalation Delivery of Liposomal Drugs and Nucleic Acids to Mice**, *Journal of Aerosol Medicine and Pulmonary Drug Delivery,* 26(0):1-10.

15. Nazarenko, Y., Zhen, H., Han, T., Lioy, P., and Mainelis, G.* (2012) **Nanomaterial Inhalation Exposure from Nanotechnology-based Cosmetic Powders: a Quantitative Assessment**, *Journal of Nanoparticle Research,* 14: 1229-1242.

16. Nazarenko, Y., Zhen, H., Han, T., Lioy, P., and Mainelis, G.* (2012) **Potential for Exposure to Engineered Nanoparticles from Nanotechnology-Based Cosmetic powders**, *Environmental Health Perspectives,* 120(6): 885-892.

17. Han, T. and Mainelis G.* (2012) **Investigation of Inherent and Latent Internal Losses in Liquid-Based Bioaerosol samplers**, *Journal of Aerosol Science*, 45:58-68.

18. Wang, Z., Shalat, S.L., Black, P.K., Lioy, A.A., Stambler, O.H., Emoekpere, M., Hernandez, M., Han, T., Ramagopal, M., and Mainelis, G.* (2012) **Use of a Robotic Sampling Platform to Assess Young Children's Exposure to Indoor Bioaerosols**, *Indoor Air*, 22(2):159-169.

19. Han, T., Nazarenko, Y., Lioy, P., and Mainelis, G.* (2011) **Collection Efficiencies of an Electrostatic Sampler with Superhydrophobic Surface for Fungal Bioaerosols**, *Indoor Air*, 21(2): 110-120.

20. Nazarenko, Y., Han, T., Lioy, P., and Mainelis, G.* (2011) **Potential for Exposure to Engineered Nanoparticles from Nanotechnology-Based Consumer Spray Products**, *Journal of Exposure Science and Environmental Epidemiology*, 21: 515-528.

21. Lioy, P., Nazarenko, Y., Han, T., Lioy, M. J., and Mainelis, G.* (2010) **Nanotechnology and Exposure Science – What Is Needed To Fill the Research and Data Gaps for Consumer Products**, *International Journal of Occupational and Environmental Health*, *Special issue: Nanotechnology Exposure Assessment,* 16(4): 376-385.

22. Han, T. and Mainelis, G.* (2010) **Performance of an Electrostatic Sampler with Superhydrophobic Surface when Collecting Bacterial Aerosols**, *Aerosol Science and Technology*, 44:339-348.

23. Seshadri, S., Han, T., Krumins, V., Fennell, D.E., and Mainelis, G.* (2009) **Application of ATP Bioluminescence Method to Characterize Performance of Bioaerosol Sampling Devices**, *Journal of Aerosol Science,* 40(2):113-121.[2]

24. Han, T., Haglund, J., Hari, S., and McFarland, A.R.* (2009) **Aerosol Deposition on Electroformed Wire Screens**, *Aerosol Science and Technology*, 43(2):112-119.

25. Han, T. and Mainelis, G.* (2008) **Design and Development of an Electrostatic Sampler for Bioaerosols with High Concentration Rate**, *Journal of Aerosol Science,* 39(12): 1066-1078.[1]

26. Han, T.*, O'Neal, D., and Ortiz, C.A. (2007) **Generic-Tee-Plenum Mixing System for Application to Single Point Aerosol Sampling in Stacks and Ducts,** *Health Physics*, 92(1):40-49.

27. Han, T., O'Neal, D.*, McFarland, A.R., Haglund, J., and Ortiz, C.A. (2005) **Evaluation of Mixing Elements in an L-Shaped Configuration for Application to Single Point Aerosol Sampling in Ducts,** *HVAC&R Research Journal*, 11(4):657-672.

23. Kim, S.*, and Han, T. (1999) **Three Dimensional Analysis of Fluid Flow and Heat Transfer in Louvered Fin Arrayed Channels with Periodic Boundary Conditions,** *The Korea Society for Energy Engineering*, 8(3):452-462.

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4. In the Top 25 list of the *Journal of Aerosol Science*'s most downloaded articles for October - December 2015.
3. In the Top 25 list of the *Journal of Aerosol Science*'s most downloaded articles for January - March 2014.
2. In the Top 25 list of the *Journal of Aerosol Science*'s most downloaded articles for January - June 2009.
1. In the Top 10 list of the *Journal of Aerosol Science*'s most downloaded articles for October - December 2008.

Technical Publications

1. Han, T., and Mainelis, G. (2012) **Evaluation of the 3000 LPM Wetted Wall Cyclone Sampler (Final report)**, supported by WoongJin Co., LTD, in South Korea.

2. Coles, H., Han, T., Price, P., Gadgil, A., and Tshudi, W. (2011) **Air Corrosivity in U.S. Outdoor-Air-Cooled Data Centers is Similar to That in Conventional Data Centers**, supported by *Department of Energy*, http://hightech.lbl.gov/library.html#Publications.

3. Coles, H., Han, T., Price, P., Gadgil, A., and Tshudi, W. (2011) **Air-Side Economizer Cooling Is Safe for Most California Data Centers". California Energy Commission**, supported by *California Energy Commission*, CEC-500-2010-XXX, http://hightech.lbl.gov/library.html#Publications.

4. Han, T., Shehabi, A., Coles, H., Tshudi, W., Gadgil, A., and Stein, J. (2010) **Should Data Center Owners be Afraid of Air-side Economizer Use? – A Review of ASHRAE TC 9.9 White Paper titled *Gaseous and Particulate Contamination Guidelines for Data Centers***, supported by *Lawrence Berkeley National Laboratory*, *http://hightech.lbl.gov/library.html#Publications*.

5. Booker, K., Granderson, J., Han, T., and Yang, N. (2010) **Report on Results of WBT for Charcoal Stoves for Haiti**, *supported by Lawrence Berkeley National Laboratory and the Darfur Stoves Project.*

Conference Papers

1. Han, T., Coles, H., Price, P., Gadgil, A., and Tshudi, W. (2011) **Data Center Air Quality – A Study of Gaseous Contamination and Possible Effects on IT Equipment Reliability by Coupon Monitoring**, *The 12th International Conference on Indoor Air Quality & Climate 2011*.

Book Chapters

1. Han, T. (2015). **Particulate and gaseous contamination in the data center (Chapter 10)**. in *Data Center Handbook*. John Wiley & Sons, Inc.

Conference Abstracts

1. Han, T., Thomas, N., and Mainelis, G. (2017) **Evaluation of a Self-Contained Personal Electrostatic Bioaerosol Sampler (PEBS) for Bioaerosol Collection**. *Abstracts of the* 36th *Annual Meeting of the American Association for Aerosol Research* (Raleigh, North Carolina, October 16-20, 2017) (Accepted).

2. Han, T. and Mainelis, G. (2017) **A Novel Nanofiber Nasal Filter for Improved Respiratory Health**. *Abstracts of the* 36th *Annual Meeting of the American Association for Aerosol Research* (Raleigh, North Carolina, October 16-20, 2017) (Accepted).

3. Han, T. and Mainelis, G. (2017) **Continuing Development of Electrostatic Precipitator for Bioaerosols with High Concentration Rate**. *Abstracts of the European Aerosol Conference* (Zurich, Switzerland, August 27-September 1, 2017).

4. Han, T. and Mainelis, G. (2017) **A Novel Nanofiber Nasal Filter (NNF) to Improve Respiratory Health**. *Abstracts of the US-Korea Conference* (Arlington, Virginia, August 9-12, 2017).

5. Han, T., Thomas, N., and Mainelis, G. (2017) **Advanced Electrostatic Technology for Sampling Airborne Biological Particles**. *Abstracts of the US-Korea Conference* (Arlington, Virginia, August 9-12, 2017).

6. Han, T., Thomas, N., and Mainelis, G. (2017) **New Technology for Assessing Personal Bioaerosol Exposures: Personal Electrostatic Bioaerosol Sampler (PEBS).** *Abstracts of the Asian Aerosol Conference* (Jeju, Korea, July 2-6, 2017).

7. Han, T., Thomas, N., and Mainelis, G. (2017) **Development of Advanced Sampling Technologies for Measuring Exposures to Airborne Microorganisms.** *Abstracts of State of the Science Conference* (Aurora, Colorado, June 21-22, 2017).

8. Han, T. and Mainelis, G. (2017) **Development and Performance of Personal Electrostatic Bioaerosol Sampler (PEBS)**. *Abstracts of the American Industrial Hygiene Association Conference* (Seattle, Washington, June 2-8, 2017).

9. Han, T. and Mainelis, G. (2016) **Design and Development of a Self-Contained Personal Electrostatic Bioaerosol Sampler (PEBS)**. *Abstracts of the* 35th *Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, October 17-21, 2016).

10. Han, T. and Mainelis, G. (2016) **Design and Performance of Personal Electrostatic Bioaerosol Sampler (PEBS)**. *Abstracts of the* European *Aerosol Conference* (Tours, France, September 4-9, 2016).

11. Han, T., Therkorn, J., and Mainelis, G. (2015) **Advanced sampling technologies for airborne microbiological agents**. *Abstracts of the NJ Tech Council's Commercialization Conference*

(New Brunswick, NJ, December 2, 2015).

12. Mainelis, G., Han, T., Therkorn, J., Scheinbeim, J. (2015) **Advanced sampling technologies for airborne microbiological agents**, Abstracts of the *Defense Innovation: Technology Acceleration Challenges* (Austin, TX, December 1-3, 2015).

13. Han, T. and Mainelis, G. (2015) **Design and Development of a Portable Electrostatic Bioaerosol Sampler (PEBS) with High Sampling Flow Rate**. *Abstracts of the* 34th *Annual Meeting of the American Association for Aerosol Research* (Minneapolis, Minnesota, October 12-16, 2015).

14. Han, T. and Mainelis, G. (2015) **Initial Development of a Portable Electrostatic Bioaerosol Sampler (PEBS)**. *Abstracts of the European Aerosol Conference* (Milan, Italian Republic, September 6-11, 2015).

15. Han, T., Therkorn, J., and Mainelis, G. (2015) **Advanced sampling technologies for airborne microbiological agents**. *Abstracts of Defense Innovation: Technology Acceleration Challengers* (Austin, TX, December 1-3,, 2015).

16. Han, T. and Mainelis, G. (2014) **Application of ATP-based Bioluminescence for Bioaerosol Quantification: Effect of Sampling Method**. *Abstracts of the* 33rd *Annual Meeting of the American Association for Aerosol Research* (Orlando, Florida, October 20-24, 2014).

17. Han, T., Zhen, H., and Mainelis, G. (2014) **Performance of Electrostatic Battery for Emission Control (ESBEC) when Challenged with Diesel Emissions**. *Abstracts of 2014 International Aerosol Conference* (Busan, Korea, August 28-September 2, 2014).

18. Han, T., Zhen, H., Fennell, D.E., and Mainelis, G. (2014) **Improvement and Field-Testing of an Electrostatic Bioaerosol Collector with High Concentration Rate**. *Abstracts of 2014 International Aerosol Conference* (Busan, Korea, August 28-September 2, 2014).

19. Han, T. and Mainelis, G. (2014) **Electrostatic Screen Device and Method for Emission Control**. *Abstracts of 2014 US-Korea Conference* (San Francisco, CA, August 6 - 9, 2014).

20. Zhen, H., Han, T., Fennell, D.E., and Mainelis, G. (2014) **Analysis of Aerosolization and Sampling Factors Affecting Structural Integrity and Viability of Bacterial Aerosols**. *Abstracts of 2014 Aerosol Technology* (June 16 – 18, 2014, Karlsruhe, Germany).

21. Han, T., Zhen, H., Fennell, D.E., and Mainelis, G. (2014) **Further Development and Field-Testing of an Electrostatic Bioaerosol Collector with High Concentration Rate**. *Abstracts of 2014 Aerosol Technology* (June 16 – 18, 2014, Karlsruhe, Germany).

22. Zhen, H., Han, T., Fennell, D.E., and Mainelis, G. (2014) **Bioaerosol Sampling by Different Methods: Effect on Bioaerosol Structural Integrity Loss and Exposure Assessment Accuracy**. *Abstracts of the American Industrial Hygiene Conference and Exposition* (San Antonio, TX, May 31 – June 5, 2014), accepted.

23. Han, T., Zhen, H., and Mainelis, G. (2013) **Performance of Electrostatic Battery for Emission Control (ESBEC) when Challenged with Diesel Emissions**. *Abstracts of the* 32nd *Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

24. Han, T., Wren, M, DuBois, K., and Mainelis, G. (2013) **Investigation of ATP-based Bioluminescence Effectiveness for Bioaerosol Quantification**. *Abstracts of the* 32nd *Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

25. Han, T., Fennell, D.E., and Mainelis, G. (2013) **A Field-deployable Electrostatic Collector for Bioaerosols with High Concentration Rate**. *Abstracts of the 32nd Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

26. Zhen, H., Han, T., Fennell, D.E., and Mainelis, G. (2013) **Comparison of Culturability and Membrane Integrity Loss of Escherichia Coli during Aerosolization by Four Aerosol Generators**. *Abstracts of the 32nd Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

27. Calderon, L., Han, T., Subramaniam, P., Nazarenko, Y., Lee, K., Zhang, J., and Mainelis, G. (2013) **Potential Consumer Exposure to Airborne Ag and Zn Nanoparticles due to the Use of Nanotechnology-enabled Consumer Sprays**. *Abstracts of the 32nd Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

28. Zhen, H., Krumins, V., Han, T., Fennell, D.E., and Mainelis, G. (2013) **Measurement of Ribosomal RNA in Airborne Escherichia Coli: Sample Collection Methods Produce Bias in 16S rRNA-based Analysis Methods**. *Abstracts of the 32nd Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, September 30-October 4, 2013).

29. Han, T. and Mainelis, G. (2013) **Design and Performance of a Novel Collector for Diesel Emission Control**. *Abstracts of the 2013 US-Korea Conference (UKC) on Science, Technology, and entrepreneurship* (East Rutherford, New Jersey, August 7-11, 2013).

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3. Han, T. and Mainelis, G. (2016) **Design and Development of a Self-Contained Personal Electrostatic Bioaerosol Sampler (PEBS)**. *The* 35th *Annual Meeting of the American Association for Aerosol Research* (Portland, Oregon, October 17-21, 2016).

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5. Han, T. and Mainelis, G. (2015) **Design and Development of a Portable Electrostatic Bioaerosol Sampler (PEBS) with High Sampling Flow Rate**. *Poster presentation at the* 34th *Annual Meeting of the American Association for Aerosol Research* (Minneapolis, Minnesota, October 12-16, 2015).

6. Han, T., Zhen, H., Fennell, D.E., and Mainelis, G. (2014) **Improvement and Field-Testing of an Electrostatic Bioaerosol Collector with High Concentration Rate**. *Platform presentation at 2014 International Aerosol Conference* (Busan, Korea, August 28-September 2, 2014).

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