

# Curriculum vitae

Updated: October 29, 2018

## Tareq Hussein

Visiting Professor at University of Helsinki since February 2018  
Professor of Physics at the University of Jordan since December 2015  
Docent in Physics at University of Helsinki since October 2008

### Personal Information

Full name: Tareq Hussein (طارق فتحي عبدالعزيز حسين)  
Date and place of Birth: November 29, 1975, Amman, Jordan  
Nationality: Jordanian / Finnish  
Gender: Male  
Marital status: Married, four kids  
Spoken languages: Arabic, English, and Finnish  
ORCID ID: 0000-0002-0241-6435  
scopus: h-index = 29 (ID: 54402121000), more than 2867 citations.  
scholar.google: h-index = 32; i10-index = 67, more than 3780 citations.



Home Address / Jordan	Work Address	
P.O. Box 11062 Amman – 11123 – Jordan Mobile +962 779 483608	University of Jordan, Department of Physics Amman – 11942 – Jordan <a href="mailto:t.hussein@ju.edu.jo">t.hussein@ju.edu.jo</a>	Office +962 6 5355000 (ext 22060) Fax +962 6 5300253
Home Address / Finland	Adjunct Affiliation Address	
Metsänhoitajankatu 12 E71 Helsinki, 00790 Mobile +358 400 867890	University of Helsinki, Department of Physics Inst. for Atmos. and Earth System Res. (INAR) PL 64, FI-00014 UHEL Helsinki, Finland <a href="mailto:tareq.hussein@helsinki.fi">tareq.hussein@helsinki.fi</a>	Work: +358 2941 50709 Mobile +358 50 3273837

**Research interests:** Atmospheric and Environmental Sciences; Air Pollution; Urban and Indoor Air Quality; Dynamics and Physical Characterization of Aerosol Particles; Emissions and Fate of Atmospheric Aerosols, Dry Deposition; Health Effects of Aerosols; Modeling, Analytical, and Numerical Methods.

الاهتمامات البحثية: علوم طبقات الجو والبيئة؛ تلوث الهواء؛ نوعية هواء المدينة والهواء المنزلي؛ ديناميكا العوالق الهوائية وخصائصها الفيزيائية؛ انبعاثات وفناء العوالق الهوائية؛ عمليات الترسيب؛ الآثار الصحية للعوالق الهوائية؛ الطرق التحليلية والرقمية والنماذج الرياضية.

### Awards and honors

- Abdul Hameed Shoman Award for Arab Researchers (year 2014, round 33) in the field of “Applied Sciences including Water, Energy, and Environment”.
- Distinguished Researcher in year 2013 Award in the field of “Sciences of Energy, Environment, and Water”, awarded by the Scientific Research Support Fund.

## 1. Academic Qualifications and Degrees

Degree	Period	Field / Subject	Institution	Thesis
Ph.D. (**)	2000 – 2005	Physics, Atmospheric and Environmental Sciences	University of Helsinki, Department of Physics, Division of Atmospheric Sciences, Helsinki, Finland	<i>Indoor and Outdoor Aerosol Particle Size Characterization in Helsinki. Report Series in Aerosol Science, No. 74, 2005.</i> Published by the Finnish Association for Aerosol Research.
M.Sc.	1997 – 1999	Physics, Radiation and Environmental Physics	University of Jordan, Department of Physics, Amman, Jordan	<i>Modeling Exposure to Natural Radioactivity in Jordanian Buildings, 1999.</i>
B.Sc.	1993 – 1997	Physics	University of Jordan, Department of Physics, Amman, Jordan	<i>Rutherford Backscattering Spectroscopy, 1997.</i>

(\*\*) Advanced Physics courses were transferred from the University of Windsor, Ontario, Canada during 1999 – 2000.

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### 2. Administration

Period	Position	Institution
2016 Sep – 2017 Aug	Member of committee “Scientific Research”	University of Jordan, Faculty of Science Amman, Jordan
Feb – June 2016	Head of supreme technical committee “University of Jordan Innovation Center”	University of Jordan, University of Jordan Innovation Center, Amman, Jordan
2013 Sep – 2014 Aug	Dean’s Assistant for Quality Assurance and Development Affairs	University of Jordan, Faculty of Science Amman, Jordan

### 3. Academic Experience

#### 3.1. Ranks and titles

Period	Position	Institution	Duties
<i>since</i> Feb 1, 2018	Visiting Professor	University of Helsinki, Institute for Atmospheric and Earth System Research (INAR)	- Graduate Teaching - Graduate student supervision
<i>since</i> (*) Dec 10, 2015	Professor	University of Jordan, Department of Physics, Amman, Jordan	- Teaching load of 9 credit hours - B.Sc., M.Sc., and Ph.D. physics and environmental courses - Graduate student supervision
2011 Feb – 2015 Nov (*)	Associate Professor	University of Jordan, Department of Physics, Amman, Jordan	- Teaching load of 12 credit hours - B.Sc., M.Sc., and Ph.D. physics and environmental courses - Graduate student supervision
2010 Feb – 2011 Jan (*)	Assistant Professor	University of Jordan, Department of Physics, Amman, Jordan	- Teaching load of 12 credit hours - B.Sc., M.Sc., and Ph.D. physics and environmental courses - Graduate student supervision
2008 Nov – 2010 Jan	Docent in Physics	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- Up to 50% undergraduate/graduate teaching and supervision - Less than 10% administrative work.
2000 Aug – 2005 Dec	Teaching Assistant	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- Up to 20% teaching and student supervision - Field courses in atmospheric science
1999 Aug – 2000 Jul	Teaching Assistant	University of Windsor, Department of Physics, Ontario, Canada	- Laboratory instructor for General Physics I and II
1998 Aug – 1999 Mar	Teacher	Jubilee School for gifted student Amman, Jordan	- Secondary School Teacher
1997 Aug – 1998 Jul	Teaching Assistant	University of Jordan, Department of Physics, Amman, Jordan	- Laboratory instructor for General Physics I and II.

(\*) Also Adjunct Professor (Docent in Physics) at the University of Helsinki, Division of Atmospheric Sciences.

#### 3.2. Students supervision

Student	Degree	Period	Institution	Role
Marwan Kloob	Ph.D.	2018 – <b>current</b>	University of Jordan	Supervisor
Shatha Saleh		2017 – <b>current</b>	Faculty of Science Department of Physics	Supervisor
Miss Zein Shilbaieh	M.Sc.	2017 – 2018	University of Jordan	Supervisor
Miss Safaa Qaisi		2015 – 2016	Faculty of Science	Supervisor
Miss Sawsan Malik		2015 – 2016	Department of Physics	Supervisor
Miss Ola Hassouneh		2010 – 2011		Supervisor
Miss Yasmin Al-Hussein	M.Sc.	2016 – <b>current</b>	University of Jordan	Co-supervisor
Miss Noor Yasiin		2016 – 2017	Environmental Sciences and	Supervisor
Mr. Alaa Bitar		2015 – 2017	Management	Supervisor
Mr. Mutasem Halayqa		2015 – 2016		Supervisor

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Miss Arwa Jaradat Miss Nerdin Abu Abboud	M.Sc.	2017 – <b>current</b> 2015 – 2017	University of Jordan Faculty of Engineering Mechanical Engineering	Co-supervisor Main Supervisor
Miss Androniki Maragkidou Miss Lubna Dada Mr. Bjarke Mølgaard	Ph.D.	2015 – 2018 2015 – <b>current</b> 2010 – 2014	University of Helsinki, Division of Atmospheric Sciences	Co-supervisor Co-supervisor Co-supervisor
Mr. Bjarke Mølgaard Miss Hanna Hannuniemi	M.Sc.	2008 – 2009 2007 – 2008	University of Helsinki, Division of Atmospheric Sciences	Supervisor Co-supervisor
Mr. Kimmo Kallonen Mr. Mikko Repo Miss Tiina Naaranoja Mr. Juhani Takkunen Mr. Bjarke Mølgaard Mr. Mikael Ehn	B.Sc.	2016 – 2017 2013 – 2014 2012 – 2013 2012 – 2013 2007 – 2008 2004 – 2005	University of Helsinki, Division of Atmospheric Sciences	Co-supervisor Supervisor Co-supervisor Supervisor Supervisor Co-supervisor

## 4. Research Experience

### 4.1. Positions

Period	Position	Institution	Duties
2018 Feb –	Visiting Professor	University of Helsinki, Institute for Atmospheric and Earth System Research (INAR)	<i>Research projects</i> <i>National/international collaboration</i>
2015 Dec – (*)	Professor	University of Jordan, Department of Physics, Amman, Jordan	<i>Research projects</i> <i>National/international collaboration</i>
2011 Feb – 2015 Nov (*)	Associate Professor	University of Jordan, Department of Physics, Amman, Jordan	<i>Research projects</i> <i>National/international collaboration</i>
2010 Feb – 2011 Jan (*)	Assistant Professor	University of Jordan, Department of Physics, Amman, Jordan	<i>Research projects</i> <i>National/international collaboration</i>
2008 Nov – 2010 Jan	Docent in Physics	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- <i>Up to 50% teaching and student supervision</i> - <i>Up to 10% administrative work</i> - <i>Research projects</i> - <i>National and international collaboration</i>
2007 Jun – 2008 Oct	Post-Doctor	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- <i>Up to 80% research projects</i> - <i>National and international collaboration</i>
2007 Jan – May (**)	Air Pollution Scientist	Norwegian Meteorological Institute (met.no), MSC-W, Oslo, Norway	- <i>Research projects</i> - <i>RD in the EMEP model</i>
2006 Jan – Dec (**)	Post-Doctor	Stockholm University, Department of Applied Environmental Sciences, Stockholm, Sweden	- <i>Research project on resuspension of road dust</i> - <i>International collaboration</i>
2005 Oct – Dec	Post-Doctor	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- <i>Up to 80% research projects</i> - <i>National and international collaboration</i>
2003 Jul – 2005 Sep	Researcher	University of Helsinki, Division of Atmospheric Sciences, Helsinki, Finland	- <i>Up to 90% research projects</i>
2003 Jan – 2003 Jun	Researcher	Finnish Institute of Occupational Health, Helsinki, Finland	- <i>Research project</i>
2000 Aug – 2002 Dec	Researcher	University of Helsinki Division of Atmospheric Sciences Helsinki, Finland	- <i>Up to 90% research projects</i>
1999 Aug – 2000 Jul	Research Assistant	University of Windsor, Department of Physics, Ontario, Canada	- <i>Ph.D. student research</i>

(\*) Also Adjunct Professor at the University of Helsinki, Division of Atmospheric Sciences.

(\*\*) Also affiliated at the University of Helsinki, Division of Atmospheric Sciences.

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### 4.2. Scientific training

Period / Role	Course / Workshop	Organizer	Location
2013 November 3 – 7 (Lecturer)	Regional training course on atmospheric aerosol sampling procedures and analysis techniques	University of Jordan Department of Physics <i>Supported by the IAEA</i>	Amman, Jordan
2004 May 22 – 27 (Participant)	<i>Measurements of Atmospheric Aerosols: aerosol physics, sampling and measurement techniques</i>	University of Helsinki Division of Atmospheric Sciences	<i>Hyytiälä, Finland</i>
1999 Apr 19 – May 21 (Participant)	<i>School on Synchrotron Radiation</i>	<i>The Abdus Salam International Centre for Theoretical Physics</i>	<i>Trieste, Italy</i>

### 4.3. Other Training and Certificates

- Basic Security in the Field II (BSITF II) certificate by the United Nations Department of Safety & Security. *Issued on March 26, 2014 and valid for three years.*
- Advanced Security in the Field (ASITF) certificate by the United Nations Department of Safety & Security. *Issued on March 11, 2014 and valid for three years.*

### 4.4. Scientific and Research visits

Period	Host	Financial Support
Jan 8 – Feb 3, 2018	Institute for Advanced Research, Nagoya University	Nagoya IAR, Short-term Fellowship Program
Aug 5 – 24, 2017	Leibniz Institute for Tropospheric Research (TROPOS)	TROPOS
Apr 30 – May 13, 2017	e-RASMUS exchange mobility spent at the University of Helsinki	e-RASMUS
Aug 17 – 23 2009	Queensland University of Technology Brisbane, Australia	Queensland University Chancellor's Grant / University of Helsinki
Jun 1 – 15 2009	Institute of Chemical Process Fundamentals Lab. of Aerosol Chemistry and Physics Prague, Czech Republic	Czech Academy of Science
Apr 8 – May 7 2009	University of Jordan Department of Physics Amman, Jordan	University of Helsinki
Apr 19 – 27 2009	King Abdulaziz University Jeddah, Saudi Arabia	University of Helsinki Finnish Meteorological Institute
Jul 1 – Aug 31 2008	Institute of Chemical Process Fundamentals Lab. of Aerosol Chemistry and Physics Prague, Czech Republic	Institute of Chemical Process Fundamentals Väisälän Rahasto
Nov 21 – 30 2007	Institute of Chemical Process Fundamentals Lab. of Aerosol Chemistry and Physics Prague, Czech Republic	University of Helsinki Institute of Chemical Process Fundamentals
Oct 10 – 15 2006	Institute of Chemical Process Fundamentals Lab. of Aerosol Chemistry and Physics Prague, Czech Republic	University of Helsinki Institute of Chemical Process Fundamentals
Nov 1 – 12 2005	Stockholm University Dep. of Applied Environ. Sciences Stockholm, Sweden	ACCENT
Sep 10 – Oct 2 2005	Technical University of Crete Department of Environmental Engineering Crete, Greece	University of Helsinki

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### 5. Memberships and Committees

#### 5.1. Organizations and Associations

Aerosol Association for the Middle East and north Africa (AAMENA). *Co-founder* and co-chair since 2014.  
Board Member and member.

The Finnish Physical Society: member since 2014.

Finnish Association for Aerosol Research (FAAR): member since 2000.

National Committee in Jordan, International Geosphere-Biosphere Programme (IGBP). *Co-founder* and co-chair. Board Member and member.

Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS): member.

#### 5.2. Conferences Committees

“AEROSOLS 2018” the 5<sup>th</sup> Workplace and Indoor Aerosols Conference, April 18–20 2018, Cassino, Italy.  
Scientific Committee Member.

“DUSTworkshop9” the 9<sup>th</sup> International Workshop on Sand/Dust Storms and Associated Dust fall, Tenerife Island, Spain. Scientific Committee Member.

International Workshop on Middle East (Regional) Dust Sources and their Impacts., October 23–25 2017, Istanbul, Turkey. Scientific Committee Member.

#### 5.3. National Committees

Member of the “Evaluation Committee for the Prize of innovation and Creativity in Science and Technology”.  
Scientific Research Fund Support, Ministry of Higher Education, Amman, Jordan 2017.

Member of the “Scientific Committee for Water and Environment”. Scientific Research Fund Support,  
Ministry of Higher Education, Amman, Jordan 2017 – 2018.

#### 5.4. Local Committees

Department – member of “Scientific Research Committee”, Department of Physics, Faculty of Science, the  
University of Jordan, Amman, Jordan 2016 – 2017.

Faculty – member of “Scientific Research Committee”, Faculty of Science, the University of Jordan, Amman,  
Jordan 2016 – 2017.

University – head of “Supreme Technical Committee” for the “University of Jordan Innovation Center”, the  
University of Jordan, Amman, Jordan 2016.

### 6. Editorial

Period	Role	Journal / Special Issue	Publisher
2015 Sep – present	Editorial Board Member	Aerosol and Air Quality Research	Taiwan Association for Aerosol Research
2015 Feb – present	Editor	Advances in Meteorology	Hindawi Publishing Corporation
2012 Feb – present	Editorial Board Member	Dataset Papers in Science <i>Previously “Dataset Papers in Geosciences”</i> <i>Previously “Dataset Papers in Atmospheric Sciences”</i>	Hindawi Publishing Corporation
2011 Dec – 2015 Aug	Editor	Aerosol and Air Quality Research	Taiwan Association for Aerosol Research
2011 Jun – 2012 Oct	Lead Guest Editor	Advances in Meteorology - Special Issue: <i>Forecasting the Urban Air Quality</i>	Hindawi Publishing Corporation

**Reviewer for many journals:** Aerosol and Air Quality Research; Aerosol Science Technology; Atmospheric Chemistry and Physics; Atmospheric Environment; Atmospheric Research; Boundary-Layer Meteorology; Chemosphere; Environmental Pollution; Environmental Science and Technology; Indoor Air; International Journal of Environmental Research and Public Health; International Journal of Heat and Mass Transfer; Jordan Journal of Earth and Environmental Sciences; Jordan Journal of Physics; Journal of Aerosol Science; Journal of Environmental Science and Health Part A; Journal of Geophysical Research – Atmospheres; Meteorology and Atmospheric Physics; Particuology; Science of the Total Environment; Tellus B; Water, Air, and Soil Pollution.

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### 7. Funding and Grants

#### 7.1. International Research Projects

- 2019–2021: “*Healthy Outdoor Premises for Everyone*”. (EU Urban Innovative Actions, Coordinator: City of Helsinki, **4.6 M€** with **1.2 M€** for University of Helsinki). <https://www.helsinki.fi/en/news/data-science-news/in-future-helsinki-residents-can-receive-real-time-and-detailed-air-quality-data-the-hope-project-receives-large-eu-funding>, <https://www.helsinki.fi/en/news/science-news/hope-project-received-4.6-m-euros-eu-urban-innovative-actions-funding-to-produce-5g-air-quality-data>.
- 2010–2014: “*Characterization of Regional and Urban Aerosols in the Western Side of the Kingdom of Saudi Arabia with a focus on Dust Particles*”. International collaboration project between the Kingdom of Saudi Arabia and Finland funded by the Deanship of Scientific Research (DSR, Grant no. 1220/430, **total amount 570 k€**) at the King Abdulaziz University (KAU, Saudi Arabia).
- 2016: Personal research grant funded by INTROP to partially cover postdoctoral fellowship at the Stockholm University.

#### 7.2. National Research Projects

- up-coming** 2018-2020: “*Measurement and modeling of indoor aerosols and their emissions in Jordanian urban dwellings*”. To be funded by the Scientific Research Fund Support, Ministry of Higher Education, Jordan (total amount ~**175 kJD (210 k€)**, project# WE/2/2/2017).
- 2016–2017: “*Measurement and Characterization of Urban Background Fine Particle Number Size Distributions in Amman*”. Funded by the Scientific Research Fund Support, Ministry of Higher Education, Jordan (total amount **92 kJD (110 k€)**, project# BAS-1-2-2015).

#### 7.3. Internal Research Projects

- 2017–2019: “*Particulate mass (PM) concentrations of fine and coarse aerosols in the urban background atmosphere of Amman*”. Funded by the Deanship of Academic Research, the University of Jordan (**total amount 17 kJD**, project# 1994).
- 2017–2018: “*Measurements of Fine and Coarse Aerosols Concentrations at the University of Jordan*”. Funded by the Deanship of Academic Research, the University of Jordan (**total amount 4.5 kJD (6 k€)**, project# 2016).
- 2013–2016: “*Measurement and Characterization of Urban Background Coarse Particle Number Size Distributions in Amman*”. Funded by the Deanship of Academic Research, the University of Jordan (**total amount 27 kJD (35 k€)**, project# 1516). Extended to another year with additional funding of **5.4 kJD (7 k€)**.

#### 7.4. Graduate Students’ Research Grants

- 2015–2016: “*Spatial-Temporal Variation of Fine Aerosol Particles in Amman during the Spring Season of Year 2014*”. Funded by the Deanship of Academic Research, the University of Jordan (**1500 JD (1850 €)**, grant# 705).
- 2015–2016: “*Modeling Electrostatic Drifting of Aerosol Particles towards Smooth Surfaces*”. Funded by the Deanship of Academic Research, the University of Jordan (**1500 JD (1850 €)**, grant# 770).
- 2015–2016: “*Modeling Thermophoresis of Aerosol Particles onto Smooth Surfaces*”. Funded by the Deanship of Academic Research, the University of Jordan (**1500 JD (1850 €)**, grant# 771).

### 8. List of Publications

#### Theses & Monographs

- [1] Ph.D. Thesis, 2005: “*Indoor and Outdoor Aerosol Particle Size Characterization in Helsinki.*” Report Series in Aerosol Science, No. 74. Finnish Association for Aerosol Research, University of Helsinki, Helsinki – Finland.
- [2] M.Sc. Thesis, 1999: “*Modeling Exposure to Natural Radioactivity in Jordanian Buildings.*” University of Jordan, Amman – Jordan.
- [3] B.Sc. Monograph, 1997: “*Rutherford Backscattering Spectroscopy.*” University of Jordan, Amman – Jordan (not published).

## Curriculum vitae

### Books and Book Chapters

- [1] **Hussein T**, Kulmala M. Chapter 8: Micro-Environmental Modeling. In Human Exposure to Pollutants via Dermal Absorption and Inhalation, editors: Lazaridis M and Colbeck I. Series: Environmental Pollution, Volume 17. Springer Science and Business Media B. V. 2010. [ISBN 978-90-481-8662-2, e-ISBN 978-90-481-8663-1, DOI 10.1007/978-481-8663-1].

### Articles Published in Peer Reviewed Journals

**2018** [6 articles, 3 first author, 0 single author, 3 corresponding author]

- [1] Deng Y, Kagami S, Ogawa S, Kawana K, Nakayama T, Kubodera R, Adachi K, **Hussein T**, Miyazaki Y, Mochida M. Hygroscopicity of organic aerosols and their contributions to CCN concentrations over a mid-latitude forest in Japan. *Journal of Geophysical Research: Atmospheres* 2018, 123, 9703–9723.
- [2] **Hussein T**, Ibrahim S, Malek S. Particle-Surface Interaction: a Unified Three-Layer Dry Deposition Model. *Jordan Journal of Physics* 2018 (*In Press*).
- [3] **Hussein T**, Juwhari H, Al Kuisi M, Alkattan H, Lahlouh B, Al-Hunaiti A. Accumulation and Coarse Modes Aerosols Concentrations and Carbonaceous Contents in the Urban Background Atmosphere in Amman – Jordan. *Arabian Journal of Geosciences* 2018, 11, 617.
- [4] **Hussein T**, Sogacheva LL, Petäjä T. Accumulation and Coarse Modes Particle Concentrations during Dew Formation and Precipitation. *Aerosol and Air Quality Research* 2018 (*In Press*).
- [5] Koivisto A J, Jensen A C Ø, Kling K I, Kling J, Budtz H C, Koponen I K, Tuinman I, **Hussein T**, Jensen K A, Nørgaard A, Levin M. Particle emission rates during electrostatic spray deposition of TiO<sub>2</sub> nanoparticle-based photoactive coating. *Journal of Hazardous Materials* 2018, 341: 218–227.
- [6] Maragkidou A, Jaghbeir O, Hämeri K, **Hussein T**. Aerosol Particles (0.3–10 µm) inside an Educational Workshop—Emission Rate and Inhaled Deposited Dose. *Building Environment* 2018, 140: 80–89.

**2017** [9 articles, 3 first author, 1 single author, 6 corresponding author]

- [7] Al-Hunaiti A, Arar S, Täubel M, Wraith D, Maragkidou A, Hyvärinen A, **Hussein T**. Floor dust bacteria and fungi and their coexistence with PAHs in Jordanian indoor environments. *Science of the Total Environment* 2017, 601–602: 940–945.
- [8] Dada L, Paasonen P, Nieminen T, Mazon S B, Kontkanen J, Peräkylä O, **Hussein T**, Petäjä T, Kerminen V-M, Bäck J, Kulmala M. Long-term analysis of clear-sky new particle formation events and non-events in Hyytiälä. *Atmospheric Chemistry and Physics* 2017, 17: 6227–6241.
- Dada L, Paasonen P, Nieminen T, Mazon S B, Kontkanen J, Peräkylä O, Hussein T, Petäjä T, Kerminen V-M, Bäck J, Kulmala M. Long-term analysis of clear-sky new particle formation events and non-events in Hyytiälä. Atmospheric Chemistry and Physics Discussion* 2016, doi:10.5194/acp-2016-859.
- [9] **Hussein T**. Indoor-to-Outdoor Relationship of Aerosol Particles inside a Naturally Ventilated Apartment – A Comparison between Single-Parameter Analysis and Indoor Aerosol Model Simulation. *Science of the Total Environment* 2017, 596–597: 321–330.
- [10] **Hussein T**, Betar A. Size-Fractionated Number and Mass Concentrations in the Urban Background Atmosphere during Spring 2014 in Amman – Jordan. *Jordan Journal of Physics* 2017, 10: 51–60.
- [11] **Hussein T**, Boor B E, dos Santos V N, Kangasluoma J, Petäjä T, Lihavainen H. Mobile Aerosol Measurement in the Eastern Mediterranean – A Utilization of Portable Instruments. *Aerosol and Air Quality Research* 2017, 17: 1875–1886.
- [12] Lazaridis M, Eleftheriadis K, Ždímal V, Schwarz J, Wagner Z, Ondráček J, Drossinos Y, Glytsos T, Vratolis S, Torseth K, Moravec P, **Hussein T**, Smolík J. Number concentrations and modal structure of indoor/outdoor fine particles in four European Cities. *Aerosol and Air Quality Research* 2017, 17: 131–146.
- [13] Lihavainen H, Alghamdi M A, Hyvärinen A, **Hussein T**, Neitola K, Khoder M, Abdelmaksoud A S, Al-Jeelani H, Shabbaj I I, Almeahadi F M. Aerosol optical properties at rural background area in Western Saudi Arabia. *Atmospheric Research* 2017, 197: 370–378.
- [14] Maragkidou A, Arar S, Al-Hunaiti A, Ma Y, Harrad S, Jaghbeir O, Faouri D, Hämeri K, **Hussein T**. Occupational Health Risk Assessment and Exposure to Floor Dust PAHs inside an Educational Building. *Science of the Total Environment* 2017, 579: 1050–1056.
- [15] Odeh I, Arar S, Al-Hunaiti A, Sa'aydeh H, Hammad G, Duplissy J, Vuollekoski H, Korpela A, Petäjä T, Kulmala M, **Hussein T**. Chemical Investigation and Quality of Urban Dew Collections with Dust Precipitates. *Environmental Science and Pollution Research* 2017, 24: 12312–12318.

**2016** [6 articles, 1 first author, 4 corresponding author]

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- [16] **Hussein T**, Halayka M, Abu Al-Ruz R, Abdullah H, Mølgaard B, Petäjä T. Fine Particle Number Concentrations in Amman and Zarqa during Spring 2014. *Jordan Journal of Physics* 2016, 9: 31–46.
- [17] Lihavainen H, Alghamdi MA, Hyvärinen A-P, **Hussein T**, Aaltonen V, Abdelmaksoud AS, Al-Jeelani H, Almazroui M, Almeahadi FM, Al Zawad FM, Hakala J, Khoder M, Neitola K, Petäjä T, Shabbaj II, Hämeri K. Aerosols Physical properties at Hada Al Sham, Western Saudi Arabia. *Atmospheric Environment* 2016, 135: 109–117.
- [18] Karl M, Kukkonen J, Keuken MP, Lützenkirchen S, Pirjola L, **Hussein T**. Modelling and measurements of urban aerosol processes on the neighborhood scale in Rotterdam, Oslo and Helsinki. *Atmospheric Chemistry and Physics* 2016, 16: 4817–4835.  
*Karl M, Kukkonen J, Keuken M P, Lützenkirchen S, Pirjola L, Hussein T. Modelling and measurements of urban aerosol processes on the neighborhood scale in Rotterdam, Oslo and Helsinki. Atmospheric Chemistry and Physics Discussion 2015, 15: 35157–35200.*
- [19] Maragkidou A, Ma Y, Jaghbeir O, Faouri D, Harrad S, Al-Hunaiti A, Arar S, Hameri K, **Hussein T**. PAHs in Household Floor Dust Collected in Amman, Jordan. *Journal of Chemical Engineering and Process Technology* 2016, 7, 292.
- [20] Odeh I, **Hussein T**. Activity pattern of urban adult students in an Eastern Mediterranean Society. *International Journal of Environmental Research and Public Health* 2016, 13, 960 (doi: 10.3390/ijerph13100960).
- [21] Roumie M, Chiari M, Srour A, Sa'adeh H, Reslan A, Sultan M, Ahmad M, Calzolari G, Nava S, Zubaidi Th, Rihawi S, **Hussein T**, Arafah D-E, Karydas AG, Simon A, Nsouli B. Evaluation and mapping of PM<sub>2.5</sub> atmospheric aerosols in Arasia region using PIXE and gravimetric measurements. *Nuclear Inst. and Methods in Physics Research B*, 2016, 371: 381–386.

### 2015 [6 articles, 2 first author, 2 corresponding author]

- [22] Dos Santos VN, Herrmann E, Manninen HE, **Hussein T**, Hakala J, Nieminen T, Aalto PP, Merkel M, Wiedensohler A, Kulmala M, Petäjä T, Hämeri K. Variability of air ion concentrations in urban Paris. *Atmospheric Chemistry and Physics* 2015, 15: 13717–13737.  
*Dos Santos VN, Herrmann E, Manninen HE, Hussein T, Hakala J, Nieminen T, Aalto PP, Merkel M, Wiedensohler A, Kulmala M, Petäjä T, Hämeri K. Variability of air ion concentrations in urban Paris. Atmospheric Chemistry and Physics Discussion 2015, 15: 10629–10676.*
- [23] Fonseca AS, Viitanen A-K, Koivisto A J, Kangas A, Huhtiniemi M, **Hussein T**, Vanhala E, Viana M, Querol X, Hämeri K. Characterization of exposure to carbon nanotubes in an industrial setting. *Annals of Occupational Hygiene* 2015, 59: 586–599.
- [24] **Hussein T**, Dada L, Juwhari H, Faouri D. Characterization, Fate, and Re-suspension of Aerosol Particles (0.3–10 $\mu$ m): the Effects of Occupancy and Carpet Use. *Aerosol and Air Quality Research* 2015, 15: 2367–2377.
- [25] **Hussein T**, Wierzbicka A, Löndahl J, Lazaridis M, Hänninen O. Indoor Aerosol Modeling for Assessment of Exposure and Respiratory Tract Deposited Dose. *Atmospheric Environment* 2015, 106: 402–411.
- [26] Mølgaard B, Viitanen A-K, Kangas A, Huhtiniemi M, Larsen ST, Vanhala E, **Hussein T**, Boor BE, Hämeri K, Koivisto AJ. Exposure to Airborne Particles and Volatile Organic Compounds from Polyurethane Molding, Spray Painting, Lacquering, and Gluing in a Workshop. *International Journal of Environmental Research and Public Health* 2015, 12: 3756–3773.
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### 9. Invited speaker, plenary speech, and keynote speaker

- 2018 The 8th Environmental Symposium of German-Arab Scientific Forum for Environmental Studies, Amman, Jordan, 8-9 October 2018], **Keynote Speaker** “*Seasonal Variation of Urban Accumulation and Coarse Modes in Amman – Jordan*”
- 2018 WPMN Expert Meeting on Exposure Measurement and Exposure Mitigation of Nanomaterials, Ottawa, Canada, 25-26 August 2018], **Invited Speaker** “*Mass balance modelling, airborne particles, and pollution forecasts*”
- 2018 Meeting of the Science Advisory Group (SAG) for Aerosols Global Atmospheric Watch (GAW) Program, World Meteorological Organization (WMO) [WMO Secretariat, Geneva, Switzerland, 9-11 July 2018], **Invited Speaker** “*Middle East Aerosol Network*”
- 2018 Workshop: Mediterranean & Middle East air pollution in a changing climate [the Cyprus Institute, Nicosia, Cyprus, 16-17 May 2018], **Invited Speaker** “*Aerosol Association for the Middle East and North Africa - AAMENA*”
- 2018 1<sup>st</sup> InDUST joint Working Group Meeting [Technical University of Barcelona, Barcelona, Spain, 14-15 March 2018], **Invited Speaker** “*Aerosol Association for the Middle East and North Africa - AAMENA*”
- 2018 Symposium: Frontiers of Atmospheric Aerosol Studies: Towards the Understanding of the Health and Climate Effects [Nagoya University, Nagoya, Japan, 23-24 January 2018], **Keynote Speaker** “*New Particle Formation in the Urban Atmosphere*”
- 2017 International Workshop on Middle East (Regional) Dust Sources and Their Impacts [Istanbul, Turkey, 23-25 October 2017], **Invited Speaker** “*SDS-WAS Regional Cooperation in the Middle East*”
- 2016 RAS0076 - Investigating Atmospheric Particulate Matter and Pollution Source Contributions in Urban Environments Using Nuclear Analytical Techniques (ARASIA), Regional Training Course on the Use of IBA Techniques to Analyze Atmospheric Aerosols [the University of Jordan, Amman, Jordan, 20-24 November 2016], **Lecturer** “*Aerosols: Physical and Chemical Properties, and Effects of APM on Environment and Human Health*”
- 2016 4<sup>th</sup> workplace and Indoor Aerosols [Barcelona, Spain, 20-22, April 2016], **Keynote Speaker** “*Real-Time Assessment for Exposure to Aerosols Indoors and Outdoors – a Combined Approach between Modelling and Measurement*”
- 2016 8<sup>th</sup> International Petra School of Physics [Amman, Jordan, 11-14 April 2016], **Lecture** “*Dry Deposition onto Surfaces – Model Development*”
- 2015 1st Africa / Middle East Expert Meeting and Workshop on the Health Impact of Airborne Dust [Amman, Jordan, 2-5, November 2015], **Interactive Talk** “*Research on Air Quality and Health in the Middle East and North Africa*”
- 2015 Workshop – Interaction between Indoor and Atmospheric Chemistry [Lille, France, 15-17 May 2015], **Invited Speaker** “*Dynamic Behavior of Indoor Aerosols*”
- 2015 Science Day at the Faculty of Science, the University of Jordan [Amman, Jordan, 13 December 2015], **Keynote Speaker** “*Aerosols in Jordan – Challenges and Needs*”
- 2014 Special Symposium – Atmospheric Aerosol Emission and Deposition Fluxes – International Aerosol Conference [Busan, South Korea, 28 August - 2 September 2014], **Invited Speaker** “*Modeling Dry Deposition onto Environmental Surfaces*”
- 2014 RAS0072 - Evaluating and Mapping Air Pollutants Using Nuclear Analytical Techniques (ARASIA), Regional workshop to establish strategy and procedures for atmospheric aerosol sampling, analyses and interpretation of the results [IAEA headquarter, Vienna, Austria, 7-10 April 2014], 3x**Tutorial** “*Overview of Indoor and Outdoor Atmospheric Aerosols*”, “*Critical Aspects of Atmospheric Aerosol Sampling*”, and “*International Standards for Atmospheric Aerosol Sampling*”

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- 2013 Regional Training Course on Atmospheric Aerosol Sampling – Procedure and Analysis Techniques [the University of Jordan, Amman, Jordan, 3-7 November 2013], 2x **Lecturer** “*Urban Aerosols*” and “*Dynamics of Indoor Aerosols*”
- 2012 50-years anniversary of the University of Jordan – Jordan: soil, water, and air [Amman, Jordan, 13 December 2012], **Keynote Speaker** “*Urban Aerosols - Jordan*”
- 2010 Science Day at the Faculty of Science, the University of Jordan [Amman, Jordan, 9 May 2010], **Keynote Speaker** “*Direct and Indirect Effects of Aerosols*”

## 10. Innovations

	Description	Published
<b>Inhaled Dose</b>	A combined approach between modeling and experiment to calculate the inhaled deposited dose in the lungs	- Hussein et al. <i>Atmos. Environ.</i> 2015, 106: 402. - Hussein et al. <i>Sci. Total Environ.</i> 2013, 458–460: 140.
<b>MC-SIAM</b>	- Multi-Compartment and Size-resolved Indoor Aerosol Model - A novel procedure to estimate the emission rates of indoor aerosol particles	- Hussein et al. <i>Aerosol Sci. Tech.</i> 2005, 39: 1111. - Hussein et al. <i>Atmos. Environ.</i> 2006, 40: 4285.
<b>DO-FIT</b>	An automatic algorithm to parameterize particle number size distributions	- Hussein et al. <i>Boreal Environ. Res.</i> 2005, 10: 337.
<b>FUAQ</b>	Forecasting the Urban Air Quality	- Hussein et al. <i>Atmos. Environ.</i> 2006, 40: 1427. - Mølgaard et al. <i>Atmos. Environ.</i> 2012, 46: 155.
<b>TLDM-AP</b>	Three-Layer Deposition Model for Aerosol Particles on Environmental Surfaces	- Hussein et al. <i>Aerosol Sci. Technol.</i> 2012, 46: 44.