*Updated: January 26, 2019*

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.

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| **Home Address / Jordan** | **Work Address** |
| P.O. Box 11062Amman – 11123 – JordanMobile +962 779 483608 | University of Jordan, Department of PhysicsAmman – 11942 – Jordan**t.hussein@ju.edu.jo** | Office +962 6 5355000(ext 22060)Fax +962 6 5300253 |

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| **Home Address / Finland** | **Adjunct Affiliation Address** |
| Metsänhoitajankatu 12 E71Helsinki, 00790Mobile +358 400 867890 | University of Helsinki, Department of PhysicsInst. for Atmos. and Earth System Res. (INAR)PL 64, FI-00014 UHELHelsinki, Finland**tareq.hussein@helsinki.fi** | Work: +358 2941 50709Mobile +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 الرياضياتية.

**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**

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| **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 | *Indoor and Outdoor Aerosol Particle Size Characterization in Helsinki. Report Series in Aerosol Science, No. 74, 2005.*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 | *Modeling Exposure to Natural Radioactivity in Jordanian Buildings, 1999.*  |
| B.Sc. | 1993 – 1997 | Physics | University of Jordan, Department of Physics, Amman, Jordan | *Rutherford Backscattering Spectroscopy, 1997.* |

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

1. **Administration**

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| **Period** | **Position** | **Institution** |
| 2016 Sep – 2017 Aug | Member of committee “Scientific Research” | University of Jordan, Faculty of ScienceAmman, 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 ScienceAmman, Jordan |

1. **Academic Experience**
	1. **Ranks and titles**

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| **Period** | **Position** | **Institution** | **Duties** |
| ***since*** Feb 1, 2018 | Visiting Professor | University of Helsinki, Institute for Atmospheric and Earth System Research (INAR) | * *Graduate Teaching*
* *Graduate student supervision*
 |
| ***since*** 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 studentAmman, 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.*
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 (\*) *Also Adjunct Professor (Docent in Physics) at the University of Helsinki, Division of Atmospheric Sciences.*

* 1. **Students supervision**

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| **Student** | **Degree** | **Period** | **Institution** | **Role** |
| Marwan KloobShatha Saleh | Ph.D. | 2018 – current2017 – current | University of JordanFaculty of ScienceDepartment of Physics | SupervisorSupervisor |
| Miss Zein ShilbaiehMiss Safaa QaisiMiss Sawsan MalikMiss Ola Hassouneh | M.Sc. | 2017 – 2018 2015 – 20162015 – 2016 2010 – 2011 | University of JordanFaculty of ScienceDepartment of Physics | SupervisorSupervisorSupervisorSupervisor |
| Miss Yasmin Al-HusseinMiss Noor Yasiin Mr. Alaa BitarMr. Mutasem Halayqa | M.Sc. | 2016 – current2016 – 20172015 – 20172015 – 2016 | University of JordanEnvironmental Sciences and Management | Co-supervisorSupervisorSupervisorSupervisor |
| Miss Arwa JaradatMiss Nerdin Abu Abboud | M.Sc. | 2017 – current 2015 – 2017 | University of JordanFaculty of EngineeringMechanical Engineering | Co-supervisorMain Supervisor |
| Miss Androniki MaragkidouMiss Lubna DadaMr. Bjarke Mølgaard | Ph.D. | 2015 – 20182015 – current2010 – 2014 | University of Helsinki, Division of Atmospheric Sciences | Co-supervisorCo-supervisorCo-supervisor |
| Mr. Bjarke MølgaardMiss Hanna Hannuniemi | M.Sc. | 2008 – 20092007 – 2008 | University of Helsinki, Division of Atmospheric Sciences | SupervisorCo-supervisor |
| Mr. Kimmo KallonenMr. Mikko RepoMiss Tiina NaaranojaMr. Juhani TakkunenMr. Bjarke MølgaardMr. Mikael Ehn | B.Sc. | 2016 – 20172013 – 20142012 – 20132012 – 20132007 – 20082004 – 2005 | University of Helsinki, Division of Atmospheric Sciences | Co-supervisorSupervisorCo-supervisorSupervisorSupervisorCo-supervisor |

1. **Research Experience**
	1. **Positions**

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

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

* 1. **Scientific training**

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

* 1. **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*.
	1. **Scientific and Research visits**

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| **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 – 232009 | Queensland University of TechnologyBrisbane, Australia | Queensland UniversityChancellor’s Grant / University of Helsinki |
| Jun 1 – 152009 | Institute of Chemical Process FundamentalsLab. of Aerosol Chemistry and PhysicsPrague, Czech Republic | Czech Academy of Science |
| Apr 8 – May 72009 | University of JordanDepartment of PhysicsAmman, Jordan | University of Helsinki |
| Apr 19 – 272009 | King Abdulaziz UniversityJeddah, Saudi Arabia | University of HelsinkiFinnish Meteorological Institute |
| Jul 1 – Aug 312008 | Institute of Chemical Process FundamentalsLab. of Aerosol Chemistry and PhysicsPrague, Czech Republic | Institute of Chemical Process FundamentalsVäisälän Rahasto |
| Nov 21 – 302007 | Institute of Chemical Process FundamentalsLab. of Aerosol Chemistry and PhysicsPrague, Czech Republic | University of HelsinkiInstitute of Chemical Process Fundamentals |
| Oct 10 – 152006 | Institute of Chemical Process FundamentalsLab. of Aerosol Chemistry and PhysicsPrague, Czech Republic | University of HelsinkiInstitute of Chemical Process Fundamentals |
| Nov 1 – 122005 | Stockholm UniversityDep. of Applied Environ. SciencesStockholm, Sweden | ACCENT |
| Sep 10 – Oct 22005 | Technical University of CreteDepartment of Environmental EngineeringCrete, Greece | University of Helsinki |

1. **Memberships and Committees**
	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 Geoshphere-Biosphere Programme (IGBP). ***Co-founder*** and co-chair. Board Member and member.

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

* 1. **Conferences Committees**

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

“DUSTworkshop9” the 9th 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.

* 1. **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.

* 1. **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.

1. **Editorial**

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| **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*Previously “Dataset Papers in Geosciences”**Previously “Dataset Papers in Atmospheric Sciences”* | 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: *Forecasting the Urban Air Quality* | 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.

1. **Funding and Grants**
	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.

* 1. **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).

* 1. **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€)**.

* 1. **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).

1. **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).

# 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

**2019** [3 articles, 1 first author, 0 single author, 2 corresponding author]

1. Ali-Saleh SS, Shilbayeh Z, Alkattan H, Al-Refie MR, Jaghbeir O, Hussein T. Temporal Variations of Submicron Particle Number Concentrations at an Urban Background Site in Amman – Jordan. Jordan Journal of Earth and Environmental Sciences 2019 (In Press).
2. Alghamdi MA, Al-Hunaiti A, Arar S, Khoder M, Abdelmaksoud AS, Al-Jeelani H, Lihavainen H, Hyvärinen A, Shabbaj II, Almehmadi FM, Zaidan MA, Hussein T, Dada L. A predictive model for steady state ozone concentration at an urban-coastal site. International Journal of Environmental Research and Public Health 2019, 16, 256.
3. Hussein T, Ibrahim S, Malek S. Particle-Surface Interaction: a Unified Three-Layer Dry Deposition Model. Jordan Journal of Physics 2019 (In Press).

**2018** [5 articles, 2 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, 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.
3. Hussein T, Sogacheva L, Petäjä T. Accumulation and Coarse Modes Particle Concentrations during Dew Formation and Precipitation. Aerosol and Air Quality Research 2018, 18: 2929–2938.
4. 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 TiO2 nanoparticle-based photoactive coating. Journal of Hazardous Materials 2018, 341: 218–227.
5. 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]

1. 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.
2. 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.*

1. 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.
2. 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.
3. 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.
4. 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.
5. Lihavainen H, Alghamdi M A, Hyvärinen A, Hussein T, Neitola K, Khoder M, Abdelmaksoud A S, Al-Jeelani H, Shabbaj I I, Almehmadi F M. Aerosol optical properties at rural background area in Western Saudi Arabia. Atmospheric Research 2017, 197: 370–378.
6. 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.
7. 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]

1. 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.
2. Lihavainen H, Alghamdi MA, Hyvärinen A-P, Hussein T, Aaltonen V, Abdelmaksoud AS, Al-Jeelani H, Almazroui M, Almehmadi 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.
3. 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.*

1. 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.
2. 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).
3. Roumie M, Chiari M, Srour A, Sa’adeh H, Reslan A, Sultan M, Ahmad M, Calzolai G, Nava S, Zubaidi Th, Rihawi S, Hussein T, Arafah D-E, Karydas AG, Simon A, Nsouli B. Evaluation and mapping of PM2.5 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]

1. 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.*

1. 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.
2. Hussein T, Dada L, Juwhari H, Faouri D. Characterization, Fate, and Re-suspension of Aerosol Particles (0.3–10µm): the Effects of Occupancy and Carpet Use. Aerosol and Air Quality Research 2015, 15: 2367–2377.
3. Hussein T, WierzbickaA, Löndahl J, Lazaridis M, Hänninen O. Indoor Aerosol Modeling for Assessment of Exposure and Respiratory Tract Deposited Dose. Atmospheric Environment 2015, 106: 402–411.
4. 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.
5. Wierzbicka A, Bohgard M, Pagels JH, Dahl A, Löndahl J, Hussein T, Swietlicki E, Gudmundsson A. Quantification of differences between occupancy and total monitoring periods for better assessment of exposure to particles in indoor environments. Atmospheric Environment 2015 106: 419–428.

**2014** [11 articles, 2 first author, 1 single author, 3 corresponding author]

1. Alghamdi MA, Khoder M, Harrison RM, Hyvärinen A-P, Hussein T, Al-Jeelani H, Abdelmaksoud AS, Goknil MH, Shabbaj II, Almehmadi FM, Lihavainen H, Hämeri K. Temporal Variations of O3 and NOx in the Urban Background Atmosphere of the Coastal City Jeddah, Saudi Arabia. Atmospheric Environment 2014, 48: 0409–0417.
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3. Hussein T. Particle size distributions inside a university office in Amman, Jordan. Jordan Journal of Physics 2014, 7: 73–83.
4. Hussein T, Alghamdi MA, Khoder M, AbdelMaksoud AS, Al-Jeelani H, Goknil MK, Shabbaj II, Almehmadi FM, Hyvärinen A, Lihavainen H, Hämeri K. Particulate matter and number concentrations of particles larger than 0.25 µm in the urban atmosphere of Jeddah, Saudi Arabia. Aerosol and Air Quality Research 2014, 14: 1383–1391.
5. Hussein T, Mølgaard B, Hannuniemi H, Martikainen J, Järvi L, Wegner T, Ripamonti G, Weber S, Vesala T, Hämeri K. Finger-Prints of Urban Particle Number Size Distribution in Helsinki – Finland: Local versus Regional Characteristics. Boreal Environment Research 2014, 19: 1–20.
6. Koivisto AJ, Palomäki JE, Viitanen A-K, Siivola KM, Koponen IK, Mingzhou Y, Kanerva TS, Norppa H, Alenius HT, Hussein T, Savolainen K, Hämeri KJ. Range-finding risk assessment of inhalation exposure to nanodiamonds in a laboratory environment. International Journal of Environmental Research and Public Health 2014, 11: 5382–5402.
7. Kristensson A, Johansson M, Swietlicki E, Kivekäs N, Hussein T, Nieminen T, Kulmala M, Dal Maso M. NanoMap: Geographical mapping of atmospheric new particle formation through analysis of particle number size distribution and trajectory data. Boreal Environment Research 2014, 19 Suppl. B: 329–342.
8. Mølgaard B, Koivisto AJ, Hussein T, Hämeri K. A New Clean Air Delivery Rate Test Applied to Five Portable Indoor Air Cleaners. Aerosol Science and Technology 2014, 48: 409–417.
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10. Norros V, Rannik Ü, Hussein T, Petäjä T, Vesala T, Ovaskainen O. Do small spores disperse further than large spores? Ecology 2014, 95: 1612–1621.
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1. Han Y, Iwamoto Y, Nakayama T, Kawamura K, Hussein T, Mochida M. Observation of new particle formation over a mid-latitude forest facing the North Pacific. Atmospheric Environment 2013, 64: 77–84.
2. Hussein T, Löndahl J, Paasonen P, Koivisto AJ, Petäjä T, Hämeri K, Kulmala M. Modeling Regional Deposited Dose of Submicron Aerosol Particles. Science of the Total Environment 2013, 458–460: 140–149.
3. Hussein T, Norros V, Hakala J, Petäjä T, Aalto PP, Rannik Ü, Vesala T, Ovaskainen O. Species Traits and Inertial Deposition of Fungal Spores. Journal of Aerosol Science 2013, 61: 81–98.
4. Mølgaard B, Birmili W, Clifford S, Massling A, Eleftheriadis K, Norman M, Vratolis S, Wehner B, Corander J, Hämeri K, Hussein T. Evaluation of a statistical forecast model for size-fractionated urban particle number concentrations using data from five European cities. Journal of Aerosol Science 2013, 66: 96–110.
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2. Hussein T, Paasonen P, Kulmala M. Activity pattern of a selected group of school occupants and their family members in Helsinki – Finland. Science of the Total Environment 2012, 425: 289–292.
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**2008** [7 articles, 3 first author, 3 corresponding author]

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1. Hirsikko A, Kulmala M, Yli-Juuti T, Nieminen T, Hussein T, Vartiainen E, Laakso L. Indoor and outdoor air ion and particle number size distributions in the urban background atmosphere of Helsinki, Finland. Boreal Environment Research 2007, 12: 295–310.
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2. Petäjä T, Kerminen V-M, Dal Maso M, Junninen H, Koponen IK, Hussein T, Aalto PP, Andronopoulos S, Robin D, Hämeri K, Bartzis JG, Kulmala M. Sub-micron atmospheric aerosols in the surroundings of Marseille and Athens: physical characterization and new particle formation. Atmospheric Chemistry and Physics 2007, 7: 2705–2720.

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**2006** [4 articles, 2 first author, 2 corresponding author]

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**2005** [9 articles, 4 first author, 4 corresponding author]

1. Dal Maso M, Kulmala M, Riipinen I, Wagner R, Hussein T, Aalto PP, Lehtinen KEJ. Formation and growth of fresh atmospheric aerosols: eight years of aerosol size distribution data from SMEAR II, Hyytiälä, Finland. Boreal Environment Research 2005, 10: 323–336.
2. Hakkarainen H, Hämeri K, Koivula M, Kymäläinen H-R, Virta J, Hussein T, Kanerva P, Sjöberg A-M, Kulmala M, Hautala M, Pehkonen A. Emission measurements from fibrous thermal insulation materials, pp 171–186. *In: Sustainable use of renewable natural resources – from principles to practices, Jalkanen A & Nygren P (ed.), Helsingin Yliopiston Metsäekologian Laitoksen Julkaisuja 34 (2005).*
3. Hussein T, Dal Maso M, Petäjä T, Koponen IK, Paatero P, Aalto PP, Hämeri K, Kulmala M. Evaluation of an automatic algorithm for fitting the particle number size distributions. Boreal Environment Research 2005, 10: 337–355.
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8. Sharaf J, Shekakhwa MS, Hussein TF. Modeling exposure to natural radioactivity in building materials. Dirasat: Pure Science 2005, 32(1): 80–88.
9. Virta J, Koivula M, Hussein T, Koponen S, Hakkarainen H, Kymäläinen HR, Hämeri K, Kulmala M, Hautala M. Emissions from thermal insulations – part 1: development and characteristics of the test apparatus. Building and Environment 2005, 40: 797–802.

**2004** [6 articles, 2 first author, 2 corresponding author]

1. Hussein T, Hämeri K, Aalto P, Asmi A, Kakko L, Kulmala M. Particle size characterization and the indoor-to-outdoor relationship of atmospheric aerosols in Helsinki. Scandinavian Journal of Work, Health and Environment 2004, 30 Suppl 2: 54–62.
2. Hussein T, Puustinen A, Aalto PP, Mäkelä JM, Hämeri K, Kulmala M. Urban aerosol number size distributions. Atmospheric Chemistry and Physics 2004, 4: 391–411.

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1. Hämeri K, Hussein T, Kulmala M, Aalto P. Measurements of fine and ultrafine particles in Helsinki: connection between outdoor and indoor air quality. Boreal Environment Research 2004 9: 459–467.
2. Pirjola L, Parviainen H, Hussein T, Valli A, Hämeri K, Aalto PP, Virtanen A, Keskinen J, Pakkanen TA, Mäkelä T, Hillamo RE. “Sniffer”—a novel tool for chasing vehicles and measuring traffic pollutants. Atmospheric Environment 2004, 38: 3625–3635.
3. Pirjola L, Parviainen H, Lappi M, Hämeri K, Hussein T. A novel mobile laboratory for “chasing” city traffic. Society of Automotive Engineers 2004, 113: 1258–1264.
4. Vehkamäki H, Dal Maso M, Hussein T, Flanagan R, Hyvärinen A, Lauros J, Merikanto J, Mönkkönen P, Pihlatie M, Salminen K, Sogacheva L, Thum T, Ruuskanen T, Keronen P, Aalto PP, Hari P, Lehtinen KEJ, Rannik Ü, Kulmala M. Atmospheric particle formation events at Värriö measurement station in Finnish Lapland 1998–2002. Atmospheric Chemistry and Physics 2004, 4: 2015–2023.

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**2003** [2 articles]

1. Hämeri K, Gaman A, Hussein T, Räisänen J, Niemelä R, Aalto P, Kulmala M. Particle Concentration Profile in a Vertical Displacement Flow: A Study in an Industrial Hall. Applied Occupational and Environmental Hygiene 2003, 18(3): 183–192.
2. Laakso L, Hussein T, Aarnio P, Komppula M, Hiltunen V, Viisanen Y, Kulmala M. Diurnal and annual characteristics of particle mass and number concentrations in urban, rural and Arctic environments in Finland. Atmospheric Environment 2003, 37: 2629–2641.

**2002** [2 articles, 1 first author, 1 corresponding author]

1. Hussein T, Hämeri K, Kulmala M. Long-term indoor-outdoor aerosol measurement in Helsinki, Finland. Boreal Environment Research 2002, 7: 141–150.
2. Rannik Ü, Altimir N, Raittila J, Suni T, Gaman A, Hussein T, Hölttä T, Lassila H, Latokartano M, Lauri A, Natsheh A, Petäjä T, Sorjamaa R, Ylä-Mella H, Keronen P, Berninger F, Vesala T, Hari P, Kulmala M. Fluxes of carbon dioxide and water vapour over Scots pine forest and clearing. Agricultural and Forest Meteorology 2002, 111: 187–202.
3. **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 1st 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 4th 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 8th 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*”

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*”

1. **Innovations**

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