University of Birmingham

# Dr Mohamed A. Abdallah PhD

Marie-Curie Research Fellow

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## About

Dr Mohamed Abdallah has a wide experience in applying various mass spectrometric techniques for analysis of trace levels of environmental contaminants in biotic and abiotic matrices including different human tissues. He has also made contributions to the field of human exposure to persistent organic pollutants using various exposure and pharmacokinetic models.

## Qualifications

Ph.D of Environmental Chemistry- University of Birmingham, UK. 2010
M.Sc of Pharmaceutical Analytical Chemistry- Assiut University, Egypt. 2003
B.Sc of Pharmaceutical Sciences- Assiut University, Egypt. 2000

## Biography

Dr Mohamed Abdallah finished his bachelor studies in pharmaceutical sciences in Egypt. He then completed a taught/research masters in analytical chemistry studying the proper methods for analysis of fluoroquinolone anti-biotics in different human tissues. During his masters studies, Dr Abdallah gained theoretical and practical experience in advanced chromatographic and spectroscopic techniques in addition to applying mathematical pharmacokinetic models to predict the in vivo levels of drug doses administered via different routes in hypertensive patients. His research during the master studies resulted in 2 peer-reviwed publications in international scientific journals.

Dr Abdallah, was awarded his Ph.D from the University of Birmingham in February 2010. During his Ph.D studies, he published 19 papers in high-impact peer-reviewed journals (including 5 as corresponding author). He also participated in several international conferences with 8 oral presentations, 4 poster presentations and 26 contributions as a co-author and won two prizes for his distinguished research.

Subsequently, He took a job as a lecturer in Assiut University, Egypt, where he continued his research in the environmental health fields, published in high-impact peer-reviewed Journals (6 publications in the past 2 years) and continued his collaboration with various international research groups via a Marie-Curie Staff Exchange Scheme, before coming back to the University of Birmingham as a Marie-Curie Research Fellow.

## Teaching

3 years of experience at Assiut University, Egypt teaching the following courses:

- Pharmaceutical Applied & Instrumental Analysis 1 and 2 (for undergraduate students)
- Analysis and Quality Control (for undergraduate students)
- Extraction and Cleanup Methods for biological samples (for PhD students)

## Postgraduate supervision

Dr Abdallah is currently supervising 2 masters students and 1 PhD student in Assiut University, Egypt and 2 PhD students in the University of Birmingham, UK.

## Research

**Scopus Author ID: 23977785900**

**Research interests**

- Human exposure to persistent organic pollutants (POPs)
- Biotransformation and bioavailability of POPs to humans
- Levels and trends of various POPs in different environmental compartments
- Understanding the link between external intake of POPs via different exposure routes and their human body burdens using various exposure and Pharmacokinetic models

## Publications


1. **Abdallah MA**, Uchea C, Chipman JK, Harrad S. Enantioselective biotransformation of hexabromocyclododecane by in vitro rat and trout hepatic sub-cellular fractions. **Environ Sci Technol. 2014**, 48(5), 2732-40.
2. Law RJ, Covaci A, Harrad S, Herzke D, **Abdallah MA**, Fernie K, et al. Levels and trends of PBDEs and HBCDs in the global environment: status at the end of 2012. **Environ Int. 2014**, 65, 147-58.

3. **Abdallah MA**, Harrad S. Polybrominated diphenyl ethers in UK human milk: implications for infant exposure and relationship to external exposure. **Environ Int. 2014**, 63, 130-6.

4. **Abdallah MA,** Drage D, Harrad S. A one-step extraction/clean-up method for determination of PCBs, PBDEs and HBCDs in environmental solid matrices. **Environ Sci-Proc Imp.** 2013**,** 15:2279-2287.

5. Dirtu A, **Abdallah MA,** Covaci A. Advances in the sample preparation of brominated flame retardants and other brominated compounds. **Trac-Trend Anal Chem.** 2013; 43:189-203.

6. **Abdallah MA,** Harrad S, Collins C, Tilston E. In vitro assessment of the bioaccessibility of brominated flame retardants in indoor dust using a colon extended model of the human gastrointestinal tract. **J Environ Monit.** 2012; 14:3276-3283.

7. Carignan C, **Abdallah MA,** Wu N, Heiger-Bernays W, McClean M, Harrad S, Webster T. Predictors of tetrabromobisphenol-A and hexabromocyclododecanes in milk from Boston mothers. **Environ Sci Technol.** 2012; 46:12146-12153.

8. **Abdallah MA,** Harrad S. Tetrabromobisphenol-A, Hexabromocyclododecane and Its Degradation Products in UK Human Milk: Relationship to External Exposure. ***Environ. Int.*** 2011;37:443-449.

9. Harrad S, **Abdallah MA.** New Directions: What do we need to know about brominated flame retardants in indoor dust? ***Atmos Environ***. 2011;45: 5652-53.

10. Harrad S, **Abdallah MA,** Brominated flame retardants in dust from UK cars – Within-vehicle spatial variability, evidence for degradation and exposure implications. ***Chemosphere***. 2011;82:1240-45.

11. Covaci A, Harrad S, **Abdallah MA,** Ali N, Law R, Herzke D, De Wit CA. Novel brominated flame retardants: a review of their analysis, environmental fate and behaviour. ***Environ. Int***. 2011;37:532-56.

12. Roosens L, **Abdallah MA**, Harrad S, Neels H, Covaci A. Current exposure to persistent polychlorinated biphenyls (PCBs) and dichlorodiphenyldichloroethylene (p,p'-DDE) of Belgian students from food and dust. ***Environ. Sci. Technol.*** 2010;44:2870-75. *(Subject of a news article at http://pubs.acs.org/doi/full/10.1021/es100689d)*

13. **Abdallah MA**, Harrad S. Modification and calibration of a passive air sampler for monitoring vapor and particulate phase brominated flame retardants in indoor air: application to car interiors. ***Environ. Sci. Technol.*** 2010;44:3059-65.

14. Harrad S, de Wit CA, **Abdallah MA**, Bergh C, Bjorklund JA, Covaci A, Darnerud PO, DeBoer J, Diamond M, Huber S, Leonards P, Mandalakis M, Ostman C, Haug LS, Thomsen C, Webster TF. Indoor Contamination with Hexabromocyclododecanes, Polybrominated Diphenyl Ethers, and Perfluoroalkyl Compounds: An Important Exposure Pathway for People? ***Environ. Sci. Technol.*** 2010;44:3221-31.

15. Harrad S, Goosey E, Desborough J, **Abdallah MA**, Roosens L, Covaci A. Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls. ***Environ. Sci. Technol.*** 2010;44:4198-202.

16. Harrad S, **Abdallah MA**, Rose N, Turner S, Davidson T. Current-use brominated flame retardants in water, sediment, and fish from English lakes. ***Environ. Sci. Technol.*** 2009;43:9077-83.

17. **Abdallah MA**. Harrad S, Covaci A. Isotope Dilution Method for Determination of Polybrominated Diphenyl Ethers using Liquid Chromatography Coupled to Negative Ionisation Atmospheric Pressure Photoionisation Tandem Mass Spectrometry: Validation and Application to House Dust ***Anal. Chem.*** 2009; 7460–67.

18. Roosens L, **Abdallah MA**, Harrad S, Neels H, Covaci A. Exposure to Hexabromocyclododecanes via Dust Ingestion, but not Diet, Correlates with Concentrations in Human Serum. ***Environ. Hlth. Perspect.*** 2009; 117:1707–12.

19. **Abdallah MA**, Harrad S. Personal Exposure to HBCDs and its Degradation Products via Ingestion of Indoor Dust. ***Environ. Int.*** 2009; 35:870–76.

20. Roosens R, **Abdallah MA**, Harrad S, Neels H, Covaci A. Factors Influencing Concentrations of Polybrominated Diphenyl Ethers (PBDEs) in Belgian Adults. ***Environ. Sci. Technol.*** 2009; 43:3535–41.

21. Webster TF, Harrad S, Millette JR, Holbrook RD, Davis JM, Stapleton HM, Allen JG, McClean MD, Ibarra C, **Abdallah MA**, Covaci A. Identifying transfer mechanisms and sources of decabromodiphenyl ether (BDE 209) in indoor environments using environmental forensic microscopy. ***Environ. Sci. Technol.*** 2009*;* 43:3067-72. *(Subject of a news article at http://pubs.acs.org/doi/full/10.1021/es900669w)*

22. Covaci A, Voorspoels S, Abdallah MA, Geens T, Harrad SJ, Law R. Analytical and environmental aspects of the flame retardant tetrabromobisphenol-A and its derivatives – a review. ***J. Chrom. A.*** 2009; 1216:346–63.

23. Harrad SJ, **Abdallah MA**, Covaci A. Causes of variability in concentrations and diastereomer patterns of hexabromocyclododecanes in indoor dust. ***Environ. Int.*** 2009; 35:573–79.

24. **Abdallah MA**, Harrad S, Covaci A. Hexabromocyclododecanes and tetrabromobisphenol-A in indoor air and dust in Birmingham, UK: implications for human exposure. ***Environ. Sci. Technol.*** 2008; 42:6855–61.

25. **Abdallah MA**, Harrad S, Ibarra C, Diamond M, Melymuk L, Robson M, Covaci A. Hexabromocyclodocanes in indoor dust from Canada, United Kingdom and United States. ***Environ. Sci. Technol.*** 2008; 42:459-64. *(Subject of a news article at http://pubs.acs.org/subscribe/journals/esthagw/2007/dec/science/kb_hbcddust.html)*

26. Harrad SJ, Ibarra C, **Abdallah MA**, Boon R, Neels H, Covaci A. Concentrations of brominated flame retardants in dust from United Kingdom cars, homes and offices: causes of variability and implications for human exposure. ***Environ. Int.*** 2008; 34:459-64.

27. **Abdallah MA**, Ibarra C, Harrad S, Neels H, Covaci A. Comparative evaluation of liquid chromatography-mass spectrometry versus gas chromatography-mass spectrometry for the determination of hexabromocyclododecanes (HBCDs) and its degradation products in indoor dust. ***J. Chrom. A*** 2008; 1190:333–41.

28. Harrad S, **Abdallah MA**. Calibration of two passive air sampler configurations for monitoring concentrations of hexabromocyclododecanes in indoor air. ***J. Environ. Monit.*** 2008; 10:527–31.

29. Elkommos ME, Saleh GA, El-Gizawi SM, **Abdallah MA**. Quantitative fluorescence intensity- structure relationships of certain quinolone-metal chelates. ***Bull. Phar. Sci.*** 2006; 29:289-99.

30. Elkommos ME, Saleh GA, El-Gizawi SM, **Abdallah MA**. Spectrofluorometric Determination of Certain Quinolone Antibacterials Using Metal Chelation. ***Talanta*** 2003; 60:1033-50.



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