

Articles and conference contributions of Dr. Benjamin A. Musa Bandowe

A. Peer-reviewed articles in Journals

2017

- [1] **Bandowe, B.A.M.**, Meusel, H (2017). Nitrated polycyclic aromatic hydrocarbons in the environment – A review. *Science of the Total Environment* 581-582, 237-257
- [2] Lui, K.H., **Bandowe, B.A.M.**, Tian, L., Chan, C.S., Cao, J.J., Ning, Z., Lee, S.C., Ho, K.F (2017). Cancer risk from polycyclic aromatic compounds in fine particulate matter generated from household coal combustion in Xuanwei, China. *Chemosphere* 169, 660-668
- [3] Alves, C.A., Vicente, A.M., Custódio, D., Cerqueira, M., Nunes, T., Pio, C., Lucarelli, F., Calzolari, G., Nava, S., Diapouli, E., Eleftheriadis, K., Querol, X., **Bandowe, B.A.M** (2017). Polycyclic aromatic hydrocarbons and their derivatives (nitro-PAHs, oxygenated PAHs, and azaarenes) in PM_{2.5} from Southern European cities. *Science of the Total Environment* 595, 494-504.

2016

- [4] Ho, K.F., Chang, C.C., Tian, L., Chang, C.S., **Bandowe, B.A.M.**, Lui, K.H., Lee, K.Y., Chuang, K.J., Liu, C.Y., Ning, Z., Chuang, H.C (2016). Effects of polycyclic aromatic compounds in fine particulate matter generated from household coal combustion on response to EGFR mutations *in vitro*. *Environmental Pollution* 218, 1262-1269.
- [5] Vicente, E.D., Vicente, A.M., **Bandowe, B.A.M.**, Alves, C. A (2016). Particulate phase emission of parent polycyclic aromatic hydrocarbons (PAHs) and their derivatives (alkyl-PAHs, oxygenated-PAHs, azaarenes and nitrated-PAHs) from manually and automatically fired combustion appliances. *Air Quality, Atmosphere & Health* 9, 653-668.
- [6] **Bandowe, B.A.M.**, Meusel, H., Huang, R.J., Hoffmann, T., Cao, J.J., Ho, K. F (2016). Azaarenes in fine particulate matter from the atmosphere of a Chinese megacity. *Environmental Science and Pollution Research* 23, 16025-16036
- [7] Alves, C.A., Vicente, A.M.P., Gomes, J., Duarte, M., **Bandowe B. A. M** (2016). Polycyclic aromatic hydrocarbons (PAHs) and their derivatives (Oxygenated-PAHs nitrated-PAHs and azaarenes) in size-fractionated particles emitted in an urban road tunnel. *Atmospheric Research* 180, 128-137
- [8] Canha, N., Lopes, I., Vicente, E.D., Vicente, A.M., **Bandowe, B.A.M.**, Almeida, S.M., Alves, C.A (2016). Mutagenicity assessment of aerosols in emissions from domestic combustion processes. *Environmental Science and Pollution Research*, 23, 10799-10807.
- [9] Lui, K.H., **Bandowe, B.A.M.**, Ho, S.S.H., Chuang, H.C., Cao, J.J., Chuang, K.J., Lee, S.C., Hu, D., Ho, K.F (2016). Characterization of chemical components and bioreactivity of fine particulate matter (PM_{2.5}) during incense burning. *Environmental*

Pollution 213, 524-532.

- [10] **Bandowe, B. A. M.**, Nkansah, M.A (2016). Occurrence, distribution and health risk from polycyclic aromatic compounds (PAHs, alkyl-PAHs, oxygenated-PAHs and azaarenes) in street dusts from a major West African Metropolis. *Science of the Total Environment* 553, 439-449
- [11] Han, Y.M., Wei, C., Huang, R.J., **Bandowe, B.A.M.**, Ho, S.S.H., Cao, J.J., Jin, Z.D., Xu, B.Q., Gao, S.P., Tie, X.X., An, Z.S., Wilcke, W (2016). Reconstruction of atmospheric soot history in inland regions from lake sediments over the past 150 years. *Scientific Reports* 6:19151. Doi: 10.1038/srep19151

2015

- [12] Han, Y. M., Wei, C., **Bandowe, B. A. M.**, Wilcke, W., Cao, J. J., Xu, B. Q., Tie, X. X., Li, G.H., Jin, Z. D., An, Z. S (2015). Elemental carbon and polycyclic aromatic compounds in a 150-yr sediment core from Lake Qinghai, Tibetan Plateau, China: Influence of regional and local sources and transport pathways. *Environmental Science & Technology* 49, 4176-4183
- [13] Wei, C., **Bandowe, B. A. M.**, Han, Y., Cao, J., Zhan, C., Wilcke, W (2015). Polycyclic aromatic hydrocarbons (PAHs) and their derivatives (alkyl-PAHs, oxygenated-PAHs, nitrated-PAHs and azaarenes) in urban road dusts from Xi'an, Central China. *Chemosphere* 134, 512-520.
- [14] Han, Y.M., **Bandowe, B.A.M.**, Wei, C., Cao, J.J., Wilcke, W., Wang, G.H., Ni, H.Y. Jin, Z.D., An, Z.S., Yan, B.Z (2015). Stronger association of polycyclic aromatic hydrocarbons with soot than with char in soils and sediments. *Chemosphere* 119, 1335-1345
- [15] Wei, C., Han, Y.M., **Bandowe, B.A.M.**, Cao, J.J., Huang, R-J., Ni, H., Tian, J., Wilcke, W (2015). Occurrence, gas/particle partitioning and carcinogenic risk of polycyclic aromatic hydrocarbons and their oxygen and nitrogen containing derivatives in Xi'an, central China. *Science of the Total Environment* 505, 814-822.

2014

- [16] **Bandowe, B.A.M.**, Srinivasan, P., Seelge, M., Sirocko, F., Wilcke, W (2014). A 2600-year record of past polycyclic aromatic hydrocarbons (PAHs) deposition at Holzmaar (Eifel, Germany). *Palaeogeography, Palaeoclimatology, Palaeoecology* 401, 111-121
- [17] Lundstedt, S., **Bandowe, B.A.M.**, Wilcke, W., Boll, E., Christensen, J.H., Vila, J., Grifoll, M., Faure, P., Biache, C., Lorgeoux, C., Larsson, M., Frech Irgum, K., Ivarsson, P., Ricci, M (2014). First intercomparison study on the analysis of oxygenated PAHs and nitrogen heterocyclic compounds (N-PACs) in contaminated soil. *Trends in Analytical Chemistry* 57, 83-92
- [18] **Bandowe, B.A.M.**, Bigalke, M., Boamah, L., Nyarko, E., Saalia, F.K., Wilcke, W

- (2014). Polycyclic aromatic compounds (PAHs and oxygenated PAHs) and trace metals in fish species from Ghana (West Africa): Bioaccumulation and health risk assessment. *Environment International* 65, 135-146
- [19] **Bandowe, B.A.M.**, Meusel, H., Huang, R-J., Ho, K.F., Cao, J.J., Hoffmann, T., Wilcke, W (2014): PM_{2.5}-bound oxygenated PAHs, nitro-PAHs and parent-PAHs from the atmosphere of a Chinese megacity: Seasonal variation, sources and cancer risk assessment. *Science of the Total Environment* 473-474, 77-87
- [20] Wilcke, W., **Bandowe, B.A.M.**, Lueso, M.G., Ruppenthal, M., del Valle, H., Oelmann, Y (2014). Polycyclic aromatic hydrocarbons (PAHs) and their polar derivatives (oxygenated PAHs, azaarenes) in soils along a climosequence in Argentina. *Science of the Total Environment* 473-474, 317-325
- [21] Wilcke, W., Kiesewetter, M., **Bandowe, B.A.M** (2014). Microbial formation and degradation of oxygen-containing polycyclic aromatic hydrocarbons (OPAHs) in soil during short-term incubation. *Environmental Pollution* 184, 385-390
- [22] **Bandowe, B.A.M.**, Lueso, M.G., Wolfgang, W (2014). Oxygenated polycyclic aromatic hydrocarbons and azaarenes in urban soils: a comparison of a tropical city (Bangkok) with two temperate cities (Bratislava and Gothenburg). *Chemosphere* 107, 407-414

2011

- [23] Gnandi, K., **Bandowe, B.A.M.**, Dehenyn, D.D., Porrachia, M., Kersten, M., Wilcke, W (2011). Polycyclic aromatic hydrocarbons and trace metal contamination of coastal sediment and biota from Togo. *Journal of Environmental Monitoring* 13, 2033-2041
- [24] **Bandowe, B.A.M.**, Sobocka, J., Wilcke, W (2011). Oxygen-containing polycyclic aromatic hydrocarbons (OPAHs) in urban soils of Bratislava, Slovakia: patterns, relation to PAHs and vertical distribution. *Environmental Pollution* 159, 539-549

2010

- [25] **Bandowe, B.A.M.**, Shukurov, N., Kersten, M., Wilcke, W (2010). Polycyclic aromatic hydrocarbons (PAHs) and their oxygen-containing derivatives (OPAHs) in soils from the Angren industrial area, Uzbekistan. *Environmental Pollution* 158, 2888-2899
- [26] **Bandowe, B.A.M.**, Wilcke, W (2010). Analysis of polycyclic aromatic hydrocarbons and their oxygen-containing derivatives and metabolites in soils. *Journal of Environmental Quality* 39, 1349-1358
- [27] Thorenz, U.R., **Bandowe, B.A.M.**, Sobocka, J., Wilcke, W (2010). Method optimization to measure polybrominated diphenyl ether (PBDE) concentrations in soils of Bratislava, Slovakia. *Environmental Pollution* 58, 2208-2217

2009

- [28] **Bandowe, B.A.M.**, Rückamp, D., Bragança, M.A.L., Laabs, V., Amelung, W., Martius, C., Wilcke, W (2009). Naphthalene production by microorganisms associated with termites: Evidence from a microcosm experiment. *Soil Biology and Biochemistry* 41, 630-639

2008

- [29] Apel, E.C., Brauers, T., Koppmann, R., **Bandowe, B.**, Bossmeyer, J., Holzke, C., Tillmann, R., Wahner, A., Wegener, R., Brunner, A., Jocher, M., Ruuskanen T., Spirig, C., Steigner, D., Steinbrecher, R., Alvarez, E.G., Muller, K., Burrows, J.P., Schade, G., Solomon, S.J., Ladstatter-Weissenmayer, A., Simmonds, P., Young, D., Hopkins, J.R., Lewis, A.C., Legreid, G., Reimann, S., Hansel, A., Wisthaler, A., Blake, R.S., Ellis, A.M., Monks, P.S., Wyche, K.P (2008). Intercomparison of oxygenated volatile organic compound measurements at the SAPHIR atmosphere simulation chamber. *Journal of Geophysical Research-Atmospheres* 113. D2030

B. Book chapter

- [1] **Bandowe, B.A.M.**, Meusel, H (2015). Nitrierte Polyzyklische Aromatische Kohlenwasserstoffe (Nitro-PAKs). In: Litz, N., Wilcke, W., Wilke, W (Eds.), Bodengefährdende Stoffe-15. Erg.Lfg. 1/15. Wiley-VCH, Weinheim, 1-41 (A review). ISBN 978-3-527-33444-5
- [2] **Bandowe, B.A.M.**, Wilcke, W (2011). Sauerstoffehaltige Polyzyklische Aromatische Kohlenwasserstoffe (OPAK). In: Litz, N., Wilcke, W., Wilke, W (Eds.), Bodengefährdende Stoffe-12. Erg. Lfg. 12/11. Wiley-VCH, Weinheim, 1-44 (A review). ISBN 978-3-527-32802-4

C. Conference contributions

- [1] **B.A.M Bandowe.**, I.D. Bull., W. Wilcke: What proportion of oxygenated polycyclic aromatic hydrocarbons (OPAHs) in the environment are formed from post-emission transformation of PAHs? Platform presentation at the Annual Meeting of the British Organic Geochemical Society Meeting, The Open University, Milton Keynes, United Kingdom, 27-28 June, 2017
- [2] Vicente, A., Alves, C., **B.A.M., Bandowe**, Vascocellos, P., Caumo, S: Polycyclic aromatic hydrocarbons and their derivatives (Nitro-PAHs, Oxy-PAHs, and azaarenes in PM₁₀ from Sao Paulo, Brazil. Poster presented at the 5th Iberian Meeting on Aerosol Science and Technology (RICTA 2017), Barcelona, Spain, 4-6th July, 2017.
- [3] Alves, C.A., Vicente, A., Custódio, D., Cerqueira, M., Nunes, T., Pio, C., Lucarelli, F.,

- Calzolari G., Nava, S., Diapouli, E., Eleftheriadis, K., **Bandowe, B.A.M.** AIRUSE-LIFE+: parent polycyclic aromatic hydrocarbons and their derivatives in PM_{2.5} from Southern European cities. 4th Iberian Meeting on Aerosol Science and Technology, Aveiro, Portugal, 29 June – 1 July, 2016
- [4] **B.A.M Bandowe.**, H. Meusel., S. Leimer., A. Velescu., T. Strecker., Y. Oelmann., N. Eisenhauer., S. Scheu., T. Hoffmann., W. Wilcke: Plant diversity effects on polycyclic aromatic compounds (PACs) in soils: Results from the Jena Experiment. Platform presentation at the Annual Meeting of the German Soil Science Society, Munich, Germany, 9-13 September, 2015
- [5] **B.A.M Bandowe.**, C. Wei., Y.M. Han., J.J. Cao., W. Wilcke: Occurrence and distribution of polar polycyclic aromatic compounds in soils and aquatic environments of China. Platform presentation at the 25th edition of the International Symposium on Polycyclic Aromatic Compounds, Bordeaux, France, 13-17 September, 2015
- [6] N. Shukurov., **B.A.M Bandowe.**, M. Kersten., S. Pen-Mouratov., Y. Steinberger, W. Wilcke: Polycyclic aromatic hydrocarbons (PAHs) in soils of Almalyk industrial complex, Uzbekistan: spatial distribution and relationship with soil nematodes and microbial properties. Poster presented at the 25th edition of the International Symposium on Polycyclic Aromatic Compounds, Bordeaux, France, 13-17 September, 2015
- [7] Alves, C.A., Vicente, A.M.P., Gomes, J., Nunes, T., Duarte, M., **Bandowe, B.A.M.**: Size segregated particle-bound polycyclic aromatic compounds in a road tunnel. Poster presented at the European Aerosol Conference, Milan, Italy, 6-11 September, 2015
- [8] Vicente, E.D., Vicente, A., Duarte, M., Nunes, T., Tarelho, L., **Bandowe, B.A.**, Alves, C.A: Emission of parent, nitrated and oxygenated polycyclic aromatic hydrocarbons from manually and automatically fired residential combustion appliances. Poster presented at the European Aerosol Conference, Milan, Italy, 6-11 September, 2015
- [9] Canha, N., Lopes, I., Vicente, E.D., Vicente, A.M., **Bandowe, B.A.M.**, Almeida, S.M., Alves, C: Mutagenicity assessment of aerosols in emissions from domestic combustion processes. 7th International Workshop on Biomonitoring of Atmospheric Pollution, Lisbon, Portugal, 14-19 June, 2015.
- [10] Ho, K.F., Chuang, H.C., **Bandowe, B.A.M.**, Ho, S. S. H: The chemical properties and

- toxicology of fine particle (PM_{2.5}) from incense burning in Hong Kong. Poster presented at the 13th International Conference on Indoor Air Quality and Climate. Hong Kong, 7-12 July, 2014.
- [11] **Bandowe, B.A.M.**, Bigalke, M., Kobza, J., Wilcke, W: Fate and behaviour of oxygen-containing PAHs in forest soils. Platform presentation at the 12th International UFZ-Deltares Conference on Groundwater-Soil-Systems and Water Resource Management (AquaConSoil 2013), Barcelona, Spain, 16-19 April, 2013.
- [12] Wei, C., **Bandowe, B.A.M.**, Han, Y.M., Cao, J.J., Wilcke, W: Seasonal variation of PAHs and their oxygenated/nitrated derivatives in Xi'an, China. Poster presented at the 8th Asian Aerosol Conference, Sydney, Australia, 2-5 December, 2013.
- [13] Meusel, H., **Bandowe, B.A.M.**, Wilcke, W: Influence of plant diversity on polycyclic aromatic compounds and their metabolites in temperate grassland soils. Poster presented at the 10th Swiss Geoscience Meeting, Bern, Switzerland, 16-17 November, 2012.
- [14] Wei, C., **Bandowe, B.A.M.**, Han, Y.M., Cao, J.J., Wilcke, W: Oxygen-containing polycyclic aromatic hydrocarbons (OPAHs) in ambient air samples from different ecological zones of China: influence of climate and anthropogenic activity. Poster presented at the 12th International Global Atmospheric Chemistry (IGAC) Science Conference, Beijing, China, 17-21 September, 2012.
- [15] **Bandowe, B.A.M.**, Gomez Lueso, M., Wilcke, W: Oxygen-containing polycyclic aromatic hydrocarbons in Soils: Sources, patterns, relation to parent-PAHs and vertical distribution. Platform presentation at the 23rd International Symposium on Polycyclic Aromatic Compounds (ISPAC 23) Münster, Germany, 4-8 September, 2011.
- [16] **Bandowe, B.A.M.**, Gomez Lueso, M., Wilcke, W: Oxygen-containing polycyclic aromatic hydrocarbons (OPAHs): An emerging pollutant group in soils. Platform presentation at the Annual Meeting of the German Soil Science Society, Berlin, Germany, 3-9 September, 2011.
- [17] Gomez Lueso, M., **Bandowe, B.A.M.**, Wilcke, W: Oxygen-containing polycyclic aromatic hydrocarbons (OPAHs) in urban soils of Bangkok (Thailand) and Bratislava (Slovakia): a tropical/temperate zone comparison. Poster presented at the Annual Meeting of the German Soil Science Society, Berlin, Germany, 3-9 September, 2011.
- [18] Kiesewetter, M., Gomez Lueso, M., **Bandowe, B.A.M.**, Wilcke, W: Polycyclic

- aromatic hydrocarbons (PAHs) and oxygenated PAHs (OPAHs): biodegradation and vertical distribution in soil. Poster presented at the Annual Meeting of the German Soil Science Society, Berlin, Germany, 3-9 September, 2011.
- [19] Wilcke, W., **Bandowe, B.A.M.**: Persistent organic pollutants in soil: sources, concentrations, and fate. Platform presentation the Swiss Soil Science Society Meeting, Frauenfeld, Switzerland, 10-11 February, 2011.
- [20] Wilcke, W., **Bandowe, B** (2011): Persistent organic pollutants in soil: sources, concentrations, and fate. Bulletin BGS 32, 33-38
- [21] **Bandowe, B.A.M.**, Wilcke, W: Oxygenated polycyclic aromatic hydrocarbons in soil. Platform presentation at the 8th Swiss Geoscience Meeting, Fribourg, Switzerland, 19-20 November, 2010.
- [22] **Bandowe, B.A.M.**, Shukurov, N., Kersten, M., Wilcke, W: The impact of polycyclic aromatic hydrocarbons (PAHs) and their oxygen-containing derivatives (OPAHs) on microorganisms in soils from the Angren industrial area, Uzbekistan. Poster presented at the 24th International Meeting on Organic Geochemistry, Bremen, Germany, 6-11 September, 2009.
- [23] **Bandowe, B.A.M.**, Wilcke, W: A method to simultaneously determine polycyclic aromatic hydrocarbons (PAHs) and their oxygen-containing derivatives (OPAHs) in soil. Poster presented at the Annual Meeting of the German Soil Science Society, Bonn, Germany, 5-13 September, 2009.
- [24] Mueller, U.R., **Bandowe, B.A.M.**, Wolfgang, W: Polybrominated diphenyl ethers (PBDEs) in soils of Bratislava. Poster presented at the Annual Meeting of the German Soil Science Society, Bonn, Germany, 5-13 September, 2009.
- [25] **Bandowe, B.A.M.**, Wilcke, W: Simultaneous determination of polycyclic aromatic hydrocarbons (PAHs) and their oxidized derivatives (OPAHs) in soil: Platform presented at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC Europe), Göteborg, Sweden, 31 May-4 June 2009.
- [26] Mueller, U.R., **Bandowe, B.A.M.**, W. Wilcke: Determination of polybrominated diphenyl ethers (PBDEs) in soil by gas chromatography-mass spectrometry (GC-MSD) with electron impact (EI) and negative chemical ionization (NCI). Poster presented at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC Europe), Göteborg, Sweden, 31 May-4 June 2009.
- [27] **Bandowe, B.A.M.**, Sirocko, F., Wilcke, W: Polycyclic aromatic hydrocarbons (PAHs) and oxy-PAH concentrations in dated sediment core from the Schalkenmehrener Maar Lake, Germany. Platform presentation at the 1st Young Environmental Scientist Meeting of the Society of Environmental Toxicology and Chemistry (Student Branch), Landau, Germany, 16-18 March, 2009.

- [28] **Bandowe, B.A.M.**, Laabs, V., Martius, C., Amelung, W., Wilcke, W: Development of an analytical method to determine precursors/metabolites of naphthalene and phenanthrene in tropical soils and plants. Poster presented at the Annual Meeting of the German Soil Science Society, Dresden, Germany, 2-9 September, 2007.
- [29] Carboo, D., Serfor-Ahmah, Y., Nyarko, B.J.B., **Bandowe, B.A.M**: Speciation of As (III)/As (V) in borehole and tap waters in Obuasi area: Platform presentation at the International Atomic Energy Agency (IAEA), 2nd Research Co-ordination Meeting on development and validation of speciation analysis using nuclear techniques, Vienna, Austria, 18-22 November, 2002.

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