

PERSONAL INFORMATION

Gunter Kuhnle

WORK EXPERIENCE

August 2019–Present

Professor of Nutrition and Food Science

University of Reading (United Kingdom)

Research into links between diet and health.

Teaching on Food & Nutrition Programmes

Director of Teaching and Learning

August 2014–July 2019

Associate Professor in Nutrition and Health

University of Reading (United Kingdom)

Research into links between diet and health.

Teaching on Food & Nutrition Programmes

April 2010–July 2014

Lecturer in Nutritional Biochemistry

University of Reading (United Kingdom)

Research into links between diet and health.

Teaching on Food & Nutrition Programmes

September 2004–March 2010

Postdoc

MRC Dunn Human Nutrition Unit (United Kingdom)

Research into links between diet and cancer and dietary assessment methods

September 2003–June 2004

Technical Specialist

Covance (United Kingdom)

Development of analytical methods for clinical studies

March 2001–June 2003

Postdoc

King's College London (United Kingdom)

Development of analytical methods for the investigation of flavonoid metabolism

EDUCATION AND TRAINING

May 1998–March 2001

Doctor rerum naturalium

Universität Leipzig (Germany)

Biochemistry, Enzyme Kinetics, LC-MS

September 1993–May 1998

Diplom Biochemiker

Universität Leipzig (Germany)

Biochemistry

ADDITIONAL INFORMATION

Expertise

Dietary and exposure assessment using objective methods (e.g. biomarker)

Endogenous formation of nitroso compounds

Association between dietary intake and health effects

- Publications** Thøgersen R, Gray N, Kuhnle G, Van Hecke T, De Smet S, Young JF, Sundekilde UK, Hansen AK, Bertram HC. Inulin-fortification of a processed meat product attenuates formation of nitroso compounds in the gut of healthy rats. *Food Chem.* 2020 Jan 1;302:125339. doi: 10.1016/j.foodchem.2019.125339. Epub 2019 Aug 8. PubMed PMID: 31419771.
- Kuhnle GGC. Stable isotope ratios-nutritional biomarkers of long-term intake? *Am J Clin Nutr.* 2019 Dec 1;110(6):1265-1267. doi: 10.1093/ajcn/nqz239. PubMed PMID: 31536121.
- van Breda SG, Mathijs K, Sági-Kiss V, Kuhnle GG, van der Veer B, Jones RR, Sinha R, Ward MH, de Kok TM. Impact of high drinking water nitrate levels on the endogenous formation of apparent N-nitroso compounds in combination with meat intake in healthy volunteers. *Environ Health.* 2019 Oct 17;18(1):87. doi: 10.1186/s12940-019-0525-z. PubMed PMID: 31623611; PubMed Central PMCID: PMC6796425.
- Ottaviani JI, Fong R, Kimball J, Ensunsa JL, Gray N, Vogiatzoglou A, Britten A, Lucarelli D, Luben R, Grace PB, Mawson DH, Tym A, Wierzbicki A, Smith AD, Wareham NJ, Forouhi NG, Khaw KT, Schroeter H, Kuhnle GGC. Evaluation of (-)-epicatechin metabolites as recovery biomarker of dietary flavan-3-ol intake. *Sci Rep.* 2019 Sep 11;9(1):13108. doi: 10.1038/s41598-019-49702-z. PubMed PMID: 31511603; PubMed Central PMCID: PMC6739331.
- Berends JE, van den Berg LMM, Guggeis MA, Henckens NFT, Hossein IJ, de Joode MEJR, Zamani H, van Pelt KAAJ, Beelen NA, Kuhnle GG, de Kok TMCM, Van Breda SGJ. Consumption of Nitrate-Rich Beetroot Juice with or without Vitamin C Supplementation Increases the Excretion of Urinary Nitrate, Nitrite, and N-nitroso Compounds in Humans. *Int J Mol Sci.* 2019 May 8;20(9). pii: E2277. doi: 10.3390/ijms20092277. PubMed PMID: 31072023; PubMed Central PMCID: PMC6539140.
- Kristek A, Wiese M, Heuer P, Kosik O, Schär MY, Soycan G, Alsharif S, Kuhnle GGC, Walton G, Spencer JPE. Oat bran, but not its isolated bioactive β -glucans or polyphenols, have a bifidogenic effect in an in vitro fermentation model of the gut microbiota. *Br J Nutr.* 2019 Mar;121(5):549-559. doi: 10.1017/S0007114518003501. Epub 2019 Jan 28. PubMed PMID: 30688188.
- Kuhnle GGC. Stable Isotope Ratios: Nutritional Biomarker and More. *J Nutr.* 2018 Dec 1;148(12):1883-1885. doi: 10.1093/jn/nxy247. PubMed PMID: 30517730.
- Sae-Lee C, Corsi S, Barrow TM, Kuhnle GGC, Bollati V, Mathers JC, Byun HM. Dietary Intervention Modifies DNA Methylation Age Assessed by the Epigenetic Clock. *Mol Nutr Food Res.* 2018 Dec;62(23):e1800092. doi: 10.1002/mnfr.201800092. Epub 2018 Nov 2. PubMed PMID: 30350398.
- Martin OCB, Naud N, Taché S, Debrauwer L, Chevolleau S, Dupuy J, Chantelauze C, Durand D, Pujos-Guillot E, Blas-Y-Estrada F, Urbano C, Kuhnle GGC, Santé-Lhoutellier V, Sayd T, Viala D, Blot A, Meunier N, Schlich P, Attaïx D, Guéraud F, Scislawski V, Corpet DE, Pierre FHF. Targeting Colon Luminal Lipid Peroxidation Limits Colon Carcinogenesis Associated with Red Meat Consumption. *Cancer Prev Res (Phila).* 2018 Sep;11(9):569-580. doi: 10.1158/1940-6207.CAPR-17-0361. Epub 2018 Jun 28. PubMed PMID: 29954759.
- Okunade O, Niranjan K, Ghawi SK, Kuhnle G, Methven L. Supplementation of the

Diet by Exogenous Myrosinase via Mustard Seeds to Increase the Bioavailability of Sulforaphane in Healthy Human Subjects after the Consumption of Cooked Broccoli. *Mol Nutr Food Res*. 2018 Sep;62(18):e1700980. doi: 10.1002/mnfr.201700980. Epub 2018 Jul 26. PubMed PMID: 29806738.

Ottaviani JI, Fong R, Kimball J, Ensunsa JL, Britten A, Lucarelli D, Luben R, Grace PB, Mawson DH, Tym A, Wierzbicki A, Khaw KT, Schroeter H, Kuhnle GGC. Evaluation at scale of microbiome-derived metabolites as biomarker of flavan-3-ol intake in epidemiological studies. *Sci Rep*. 2018 Jun 29;8(1):9859. doi: 10.1038/s41598-018-28333-w. PubMed PMID: 29959422; PubMed Central PMCID: PMC6026136.

Kuhnle GGC. Nutrition epidemiology of flavan-3-ols: The known unknowns. *Mol Aspects Med*. 2018 Jun;61:2-11. doi: 10.1016/j.mam.2017.10.003. Epub 2017 Nov 16. Review. PubMed PMID: 29146101.

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Kuhnle GG, Luben R, Khaw KT, Feelisch M. Sulfate, nitrate and blood pressure - An EPIC interaction between sulfur and nitrogen. *Pharmacol Res*. 2017 Aug;122:127-129. doi: 10.1016/j.phrs.2017.06.006. Epub 2017 Jun 10. Review. PubMed PMID: 28610958; PubMed Central PMCID: PMC5507251.

Campbell R, Tasevska N, Jackson KG, Sagi-Kiss V, di Paolo N, Mindell JS, Lister SJ, Khaw KT, Kuhnle GGC. Association between urinary biomarkers of total sugars intake and measures of obesity in a cross-sectional study. *PLoS One*. 2017 Jul 19;12(7):e0179508. doi: 10.1371/journal.pone.0179508. eCollection 2017. PubMed PMID: 28723954; PubMed Central PMCID: PMC5517003.

Bastide NM, Naud N, Nassy G, Vendevre JL, Taché S, Guéraud F, Hobbs DA, Kuhnle GG, Corpet DE, Pierre FH. Red Wine and Pomegranate Extracts Suppress Cured Meat Promotion of Colonic Mucin-Depleted Foci in Carcinogen-Induced Rats. *Nutr Cancer*. 2017 Feb-Mar;69(2):289-298. doi: 10.1080/01635581.2017.1263745. Epub 2017 Jan 17. PubMed PMID: 28094544.

Velmurugan S, Gan JM, Rathod KS, Khambata RS, Ghosh SM, Hartley A, Van Eijl S, Sagi-Kiss V, Chowdhury TA, Curtis M, Kuhnle GG, Wade WG, Ahluwalia A. Dietary nitrate improves vascular function in patients with hypercholesterolemia: a randomized, double-blind, placebo-controlled study. *Am J Clin Nutr*. 2016 Jan;103(1):25-38. doi: 10.3945/ajcn.115.116244. Epub 2015 Nov 25. Erratum in: *Am J Clin Nutr*. 2018 Apr 1;107(4):676. PubMed PMID: 26607938; PubMed Central PMCID: PMC4691670.

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Vogiatzoglou A, Mulligan AA, Bhaniani A, Lentjes MAH, McTaggart A, Luben RN, Heiss C, Kelm M, Merx MW, Spencer JPE, Schroeter H, Khaw KT, Kuhnle GGC. Associations between flavan-3-ol intake and CVD risk in the Norfolk cohort of the European Prospective Investigation into Cancer (EPIC-Norfolk). *Free Radic Biol Med.* 2015 Jul;84:1-10. doi: 10.1016/j.freeradbiomed.2015.03.005. Epub 2015 Mar 17. PubMed PMID: 25795512; PubMed Central PMCID: PMC4503814.

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Vogiatzoglou A, Mulligan AA, Lentjes MA, Luben RN, Spencer JP, Schroeter H, Khaw KT, Kuhnle GG. Flavonoid intake in European adults (18 to 64 years). *PLoS One.* 2015 May 26;10(5):e0128132. doi: 10.1371/journal.pone.0128132. eCollection 2015. PubMed PMID: 26010916; PubMed Central PMCID: PMC4444122.

Forouhi NG, Kuhnle GG, Patel PS, O'Connell TC. Reply to KJ Petzke. *Am J Clin Nutr.* 2015 Mar;101(3):688. doi: 10.3945/ajcn.114.103309. PubMed PMID: 25733658.

Bastide NM, Chenni F, Audebert M, Santarelli RL, Taché S, Naud N, Baradat M, Jouanin I, Surya R, Hobbs DA, Kuhnle GG, Raymond-Letron I, Gueraud F, Corpet DE, Pierre FH. A central role for heme iron in colon carcinogenesis associated with red meat intake. *Cancer Res.* 2015 Mar 1;75(5):870-9. doi: 10.1158/0008-5472.CAN-14-2554. Epub 2015 Jan 15. PubMed PMID: 25592152.

Vanden Bussche J, Hemeryck LY, Van Hecke T, Kuhnle GG, Pasmans F, Moore SA, Van de Wiele T, De Smet S, Vanhaecke L. O⁶-carboxymethylguanine DNA adduct formation and lipid peroxidation upon in vitro gastrointestinal digestion of haem-rich meat. *Mol Nutr Food Res.* 2014 Sep;58(9):1883-96. doi: 10.1002/mnfr.201400078. Epub 2014 Jul 2. PubMed PMID: 24990219.

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Vogiatzoglou A, Mulligan AA, Luben RN, Lentjes MA, Heiss C, Kelm M, Merx MW, Spencer JP, Schroeter H, Kuhnle GG. Assessment of the dietary intake of total flavan-3-ols, monomeric flavan-3-ols, proanthocyanidins and theaflavins in the European Union. *Br J Nutr*. 2014 Apr 28;111(8):1463-73. doi: 10.1017/S0007114513003930. Epub 2013 Dec 13. PubMed PMID: 24331295.

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Pierre FH, Martin OC, Santarelli RL, Taché S, Naud N, Guéraud F, Audebert M, Dupuy J, Meunier N, Attaix D, Vendevre JL, Mirvish SS, Kuhnle GC, Cano N, Corpet DE. Calcium and α -tocopherol suppress cured-meat promotion of chemically induced colon carcinogenesis in rats and reduce associated biomarkers in human volunteers. *Am J Clin Nutr*. 2013 Nov;98(5):1255-62. doi: 10.3945/ajcn.113.061069. Epub 2013 Sep 11. PubMed PMID: 24025632; PubMed Central PMCID: PMC3798078.

de Vries J, Antoine JM, Burzykowski T, Chiodini A, Gibney M, Kuhnle G, Méheust A, Pijls L, Rowland I. Markers for nutrition studies: review of criteria for the evaluation of markers. *Eur J Nutr*. 2013 Oct;52(7):1685-99. doi: 10.1007/s00394-013-0553-3. Epub 2013 Aug 17. Review. PubMed PMID: 23955424.

Mulligan AA, Kuhnle GG, Lentjes MA, van Scheltinga V, Powell NA, McTaggart A, Bhaniani A, Khaw KT. Intakes and sources of isoflavones, lignans, enterolignans, coumestrol and soya-containing foods in the Norfolk arm of the European Prospective Investigation into Cancer and Nutrition (EPIC-Norfolk), from 7 d food diaries, using a newly updated database. *Public Health Nutr*. 2013 Aug;16(8):1454-62. doi: 10.1017/S1368980012003904. Epub 2012 Sep 3. PubMed PMID: 22939391.

Kuhnle GG, Joosen AM, Kneale CJ, O'Connell TC. Carbon and nitrogen isotopic ratios of urine and faeces as novel nutritional biomarkers of meat and fish intake. *Eur J Nutr*. 2013 Feb;52(1):389-95. doi: 10.1007/s00394-012-0328-2. Epub 2012 Mar 10. PubMed PMID: 22406837; PubMed Central PMCID: PMC3549402.

Cortese-Krott MM, Rodriguez-Mateos A, Kuhnle GG, Brown G, Feelisch M, Kelm M. A multilevel analytical approach for detection and visualization of intracellular NO production and nitrosation events using diaminofluoresceins. *Free Radic Biol Med*. 2012 Dec 1;53(11):2146-58. doi: 10.1016/j.freeradbiomed.2012.09.008. Epub 2012 Sep 28. PubMed PMID: 23026413.

Cortese-Krott MM, Rodriguez-Mateos A, Sansone R, Kuhnle GG, Thasian-Sivarajah S, Krenz T, Horn P, Krisp C, Wolters D, Heiß C, Kröncke KD, Hogg N, Feelisch M, Kelm M. Human red blood cells at work: identification and visualization of erythrocytic eNOS activity in health and disease. *Blood*. 2012 Nov 15;120(20):4229-37. doi: 10.1182/blood-2012-07-442277. Epub 2012 Sep 24. PubMed

PMID: 23007404.

O'Connell TC, Kneale CJ, Tasevska N, Kuhnle GG. The diet-body offset in human nitrogen isotopic values: a controlled dietary study. *Am J Phys Anthropol.* 2012 Nov;149(3):426-34. doi: 10.1002/ajpa.22140. Epub 2012 Oct 5. PubMed PMID: 23042579; PubMed Central PMCID: PMC3483624.

Gay LJ, Mitrou PN, Keen J, Bowman R, Naguib A, Cooke J, Kuhnle GG, Burns PA, Luben R, Lentjes M, Khaw KT, Ball RY, Ibrahim AE, Arends MJ. Dietary, lifestyle and clinicopathological factors associated with APC mutations and promoter methylation in colorectal cancers from the EPIC-Norfolk study. *J Pathol.* 2012 Nov;228(3):405-15. doi: 10.1002/path.4085. Epub 2012 Sep 28. PubMed PMID: 22864938.

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Projects Endogenous formation of nitroso compounds, in particular resulting from dietary intake of meat and/or nitrosating species (e.g. PHYTOME project)
Investigation of associations between flavan-3-ol intake and health (e.g. FLAVIOLA project)
Development of objective markers of dietary intake and exposure

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