

*Publications / Schriftenverzeichnis*

**1. Peer-reviewed articles / Publikationen in referierten Journalen**

**2015**

1. J. Niebler, A. Buettner. Pyrolysis-GC-MS-Olfactometry: A new approach to identify thermally generated odorants in frankincense. *J. Anal. Appl. Pyrol.* 2015, 113, 690-700, doi: 10.1016/j.jaap.2015.04.018.
2. M. Denzer, F. Kirsch, A. Buettner. Are odorant constituents of herbal tea transferred into human milk? *J. Agric. Food Chem.* 2015, 63, 104-111, doi: 10.1021/jf504073d.
3. J. Niebler, A. Buettner. Identification of odorants in frankincense (*Boswellia sacra* Flueck.) by aroma extract dilution analysis and two-dimensional gas chromatography-mass spectrometry/olfactometry. *Phytochem.* 109, 2015, 66-75, 10.1016/j.phytochem.2014.10.030.

**2014**

4. C. Siefarth, A. Buettner. The aroma of goat milk: seasonal effects and changes through heat treatment. *J. Agric. Food Chem.* 2014, 62, 11805-11817, doi: 10.1021/jf5040724.
5. S. Nilsson, J. Sjöberg, M. Amundin, C. Hartmann, A. Buettner, M. Laska. Behavioral responses in large carnivores to mammalian blood odor and a blood odor component. *PLoS ONE*, 2014, 9(11), e112694, doi:10.1371/journal.pone.0112694
6. H. Loos, S. Doucet, R. Soussignan, C. Hartmann, K. Durand, R. Dittrich, P. Sagot, A. Buettner, B. Schaal. Responsiveness of human neonates to the odor of 5 $\alpha$ -androst-16-en-3-one: A behavioral paradox? *Chem. Senses* 2014, 39, 693-703.
7. P. Silcock, M. Alothman, E. Zardin, S. Heenan, C. Siefarth, P. J. Bremer, J. Beauchamp. Microbial-induced changes in the volatile constituents of fresh chilled pasteurised milk during storage, *Food Packaging Shelf Life*, 2014, 2, 81-90, doi: 10.1016/j.fpsl.2014.08.002
8. O. Benjamin, P. Silcock, J. Beauchamp, A. Buettner, D. W. Everett. Emulsifying Properties of Legume Proteins Compared to  $\beta$ -Lactoglobulin and Tween 20 and the Volatile Release from Oil-in-Water Emulsions *J. Food Sci.* 2014, 79, E2014-E22, doi: 10.1111/1750-3841.12593
9. J. Beauchamp, E. Zardin, P. Silcock, P. J. Bremer. Monitoring photooxidation-induced dynamic changes in the volatile composition of extended shelf life bovine milk by PTR-MS, *J. Mass Spectrom.* 2014, 49(9), 952-8, doi: 10.1002/jms.3430
10. J. Herbig, J. Beauchamp. Towards standardization in the analysis of breath gas volatiles, *J. Breath Res.* 2014, 8, 037101 (11pp), doi: 10.1088/1752-7155/8/3/037101
11. A. Heinlein, M. Metzger, H. Walles, A. Buettner. Transport of hop aroma compounds across Caco-2-monolayers. *Food Funct.* 2014, doi: 10.1039/C3FO60675A
12. C. Siefarth, T.B.T. Thao, P. Mittermaier, T. Pfeiffer, A. Buettner. Effect of Radio Frequency Heating on Yoghurt – II. Microstructure and Texture. *Foods* 2014, 3, 369-393; doi: 10.3390/foods3020369
13. C. Siefarth, T.B.T. Thao, P. Mittermaier, T. Pfeiffer, A. Buettner. Effect of Radio Frequency Heating on Yoghurt – I. Technological Applicability, Shelf-life and Sensorial Quality. *Foods* 2014, 3, 318-335; doi: 10.3390/foods3020318
14. M. Y. Denzer, S. Gailer, D. W. Kern, L. P. Schumm, N. Thuerauf, J. Kornhuber, A. Buettner, J. Beauchamp. Quantitative validation of the n-butanol Sniffin' Sticks

- threshold pens, *Chemosens. Percept.* 2014, 7(2), 91-101, doi: 10.1007/s12078-014-9168-1
15. K. Lorber, P. Schieberle, A. Buettner. The influence of the chemical structure on odor qualities and odor thresholds in homologous series of 1,5-alkadien-3-ones, 1-alken-3-ones, 1,5-alkadien-3-ols and 1-alken-3-ols. *J. Agric. Food Chem.* 2014, 62(5), 1025-1031, doi: 10.1021/jf404885
  16. C. Hartmann, R. Dittrich, A. Buettner. Identification of odor active substances in individual low-volume amniotic fluid samples by a sensorically targeted gas chromatographic-olfactometric approach. *Chemosens. Percept.* 2014, 7(1), 31-39, doi: 10.1007/s12078-013-9161-0
  17. J. Beauchamp, M. Scheibe, T. Hummel, A. Buettner. Intranasal odorant concentrations in relation to sniff behavior. *Chem. Biodiv.* 2014, 11, 619-38.
  18. C. Siefarth, Y. Serfert, S. Drusch, A. Buettner. Comparative Evaluation of Diagnostic Tools for Oxidative Deterioration of Polyunsaturated Fatty Acid-Enriched Infant Formulas during Storage. *Foods* 2014, 3, 30-65, doi: 10.3390/foods3010030
  19. O. Tyapkova, S. Bader-Mittermaier, U. Schweiggert, S. Wurzinger, J. Beauchamp, A. Buettner. Characterisation of flavour-texture interactions in sugar-free and sugar-containing pectin gels. *Food Res. Int.* 2014, 55(0), 336-46, doi: 10.1016/j.foodres.2013.10.048
  20. C. Axel, E. Zannini, E. K. Arendt, D. M. Waters, M. Czerny. Quantification of cyclic dipeptides from cultures of *Lactobacillus brevis* R2 Delta by HRGC/MS using stable isotope dilution assay. *Anal. Bioanal. Chem.* 2014, 406, 2433-2444.
  21. A. Wolter, A. S. Hager, E. Zannini, M. Czerny, E. K. Arendt. Influence of dextran-producing *Weissella cibaria* on baking properties and sensory profile of gluten-free and wheat breads. *Int. J. Food Microbiol.* 2014, 172, 83-91.
  22. A. Wolter, A. S. Hager, E. Zannini, M. Czerny, E. K. Arendt. Impact of sourdough fermented with *Lactobacillus plantarum* FST 1.7 on baking and sensory properties of gluten-free breads. *Eur. Res. Food Technol.* 2014, 239, 1-12.
  23. F. Wild, M. Czerny, A. M. Janssen, A. P. W. Kole, M. Zunabovic, K. J. Domig. The evolution of a plant-based alternative to meat – From niche markets to widely accepted meat alternatives. *Agro. Food Ind. Hi. Tech.* 2014, 25, 45-49.
  24. A. Kessler, H. Sahin-Nadeem, S. Lummis, I. Weigel, M. Pischetsrieder, A. Buettner, C. Villmann. GABAA receptor modulation by terpenoids from *Sideritis* extracts. *Mol. Nutr. Food Res.* 2014, 58(4), 851-62, doi: 10.1002/mnfr.201300420
  25. D. Smith, P. Spanel, J. Herbig, J. Beauchamp. Mass spectrometry for real-time quantitative breath analysis. *J. Breath Res.* 2014, 8, 027101 (23pp), doi: 10.1088/1752-7155/8/2/027101
  26. E. Zardin, O. Tyapkova, A. Buettner, J. Beauchamp. Performance assessment of proton-transfer-reaction time-of-flight mass spectrometry (PTR-TOF-MS) for analysis of isobaric compounds in food-flavour applications. *LWT – Food Sci. Technol.* 2014, 56(1), 153-60, doi: 10.1016/j.lwt.2013.10.041
  27. M. Wagenstaller, A. Buettner. Coffee aroma constituents and odorant metabolites in human urine. *Metabolomics* 2014, 10(2), 225-40, doi: 10.1007/s11306-013-0581-2

### **2013**

28. J. Spitzer, A. Buettner. Monitoring aroma changes during human milk storage at -19°C by quantification experiments. *Food Res. Int.* 2013, 51, 250–256, doi: 10.1016/j.foodres.2012.12.002

29. J. Spitzer, K. Klos, A. Buettner. Monitoring aroma changes during human milk storage at +4°C by sensory and quantification experiments. *Clin. Nutr.* 2013, doi: 10.1016/j.clnu.2013.01.015
30. J. Beauchamp, J. Herbig, J. Dunkl, W. Singer, A. Hansel. On the performance of proton-transfer-reaction mass spectrometry for breath-relevant gas matrices. *Meas. Sci. Technol.* 2013, 24, 125003 (13pp), doi: 10.1088/0957-0233/24/12/125003
31. F. Kirsch, A. Buettner. Odour Qualities and Thresholds of Physiological Metabolites of 1,8-Cineole as an Example for Structure-Activity Relationships Considering Chirality Aspects. *Chem. Biodiv.* 2013, 10(9), 1683-1695, doi: 10.1002/cbdv.201300097
32. O. Benjamin, P. Silcock, J. Beauchamp, A. Buettner, D. W. Everett. Volatile release and structural stability of  $\beta$ -lactoglobulin primary and multilayer emulsions under simulated oral conditions, *Food Chem.* 2013, 140, 124-34, doi: 10.1016/j.foodchem.2013.02.043
33. M. Wagenstaller, A. Buettner. Quantitative determination of odorants and their glucuronide conjugates in human urine. *Metabolites* 2013, 3, 637-657, doi: 10.3390/metabo3030637
34. C. Hartmann, A. Triller, M. Spehr, R. Dittrich, H. Hatt, A. Buettner. Sperm activating odorous substances in human follicular fluid and vaginal secretion: Identification by gas chromatography-olfactometry and Ca<sup>2+</sup> imaging. *ChemPlusChem* 2013, 78(7), 695-702, doi: 10.1002/cplu.201300008
35. M. Mehdid, A. Djafri, F. Andreoli, N. Vanthuyne, D. Farran, J. Niebler, A. Buettner, M. Giorgi, C. Roussel. Metathetic Sulfur Transfer mediated by N-(2-aminophenyl)-4-methyl-thiazolin-2-thione derivatives: Part III: a new Route to Diversely Substituted S-alkyl thioesters. *Tetrahedron* 2013, 69, 4994e5001.
36. A. S. Hager, E. Zannini, J. Bez, M. Czerny, E. K. Arendt. Starch properties, *in vitro* digestibility and sensory properties of fresh egg pasta produced from oat, teff and wheat flour. *J. Cer. Sci.* 2013, 58, 156-163, doi: 10.1016/j.jcs.2013.03.004
37. F. Kirsch, K. Horst, W. Röhrig, M. Rychlik, A. Buettner. Tracing metabolite profiles in human milk: Studies on the odorant 1,8-cineole transferred into breast milk after oral intake. *Metabolomics*, 2013, 9, 483-496, doi: 10.1007/s11306-012-0466-9
38. C. Hartmann, F. Mayenzet, J.-P. Larcinese, O. Haefliger, A. Buettner, C. Starkenmann. Development of an analytical approach for identification and quantification of 5- $\alpha$ -androst-16-en-3-one in human milk. *Steroids* 2013, 78, 156-160, doi: 10.1016/j.steroids.2012.11.005
39. M. Wagenstaller, A. Buettner. Characterization of odorants in human urine using a combined chemo-analytical and human-sensory approach – a potential diagnostic strategy. *Metabolomics* 2013, 9, 9-20, doi: 10.1007/s11306-012-0425-5
40. M. Schaffarczyk, T. Balaban, M. Rychlik, A. Buettner. Syntheses of chiral 1,8-cineole-metabolites and determination of their enantiomeric composition in human urine after ingestion of 1,8-cineole-containing capsules. *ChemPlusChem* 2013, 78, 77-85, doi: 10.1002/cplu.201200253
41. F. Kirsch, A. Buettner. Characterisation of the metabolites of 1,8-cineole transferred into human milk: Concentrations and ratio of enantiomers. *Metabolites* 2013, 3, 47-71, doi: 10.3390/metabo3010047

## **2012**

42. J. Müller, N. Gruner, I. Almstätter, F. Kirsch, A. Buettner, M. Pfaffl. Inquiry of the metabolisation of 1,8-cineole in an intestinal cell culture model and acquisition of its

- immune-modulatory effect via gene expression analysis. *Flavour Fragr. J.*, 2012, 27, 405-413, doi: 10.1002/ffj.3109
43. A. S. Hager, A. Wolter, E. Zannini, E.K. Arendt, M. Czerny. Investigation of product quality, sensory profile and ultra-structure of breads made from a range of commercial gluten free flours compared to their wheat counterparts. *Eur. Res. Food Technol.*, 2012, 235, 333-344, doi: 10.1007/s00217-012-1763-2
  44. A. Heinlein, A. Buettner. Monitoring of biotransformation of hop aroma compounds in an in vitro digestion model. *Food & Function*, 2012, 3, 1059-1067, doi: 10.1039/C2FO30061C
  45. O. Benjamin, P. Silcock, J. Beauchamp, A. Buettner, D. W. Everett. Tongue pressure and oral conditions affect volatile release from liquid systems in a model mouth, *J. Agric. Food Chem.*, 2012, 60 (39), 9918–9927, doi: 10.1021/jf3028232
  46. C. Hartmann, S. Doucet, Y. Niclass, R. Dittrich, S. Cupisti, B. Schaal, A. Buettner, C. Starkenmann. Human sweat odor precursors detected in human milk, colostrum and amniotic fluid. *Food Chem.*, 2012, 135, 228–233, doi: 10.1016/j.foodchem.2012.04.077
  47. A. Kessler, C. Villmann, H. Sahin, M. Pischetsrieder, A. Buettner. Electrophysiological characterization of neurotropic activity of the volatile fractions of *Sideritis* varieties used in traditional cuisine as “Greek” or “Turkish” mountain tea. *Flavour Fragr. J.*, 2012, 27(4), 297-303, doi: 10.1002/ffj.3099
  48. A. Strube, A. Buettner, M. Czerny. Influence of chemical structure on absolute odour thresholds and odour characters of ortho- and para-halogenated phenols and cresols. *Flavour Fragr. J.*, 2012, 27(4), 304-312, doi: 10.1002/ffj.3101
  49. O. Benjamin, P. Silcock, J.A. Kieser, J.N. Waddell, M.V. Swain, D.W. Everett. Development of a model mouth containing an artificial tongue to measure to release of volatile compounds, *Innov. Food Sci. Emerging Technol.*, 2012, 15, 96-103, doi: 10.1016/j.ifset.2012.03.004
  50. F. Kirsch, J. Beauchamp, A. Buettner. Time-dependent aroma changes in breast-milk after oral intake of a pharmacological preparation containing 1,8-cineole. *Clin. Nutr.*, 2012, 31, 682-692, doi: 10.1016/j.clnu.2012.02.002
  51. S. Sandgruber, A. Buettner. Comparative human-sensory evaluation and quantitative comparison of odour-active oxidation markers of encapsulated fish oil products used for supplementation during pregnancy and the breastfeeding period. *Food Chem.*, 2012, 133, 458-466, doi: 10.1016/j.foodchem.2012.01.072
  52. S. Schuchardt, A. Strube. Climate chamber long-term study: Microbial volatile organic compound monitoring in moldy interiors. *J. Basic Microbiol.*, 2012, 52, 1-7, doi: 10.1002/jobm.201200056

## **2011**

53. C. Siefarth, O. Tyapkova, J. Beauchamp, U. Schweiggert, A. Buettner, S. Bader. Mixture design approach as a tool to study in vitro flavor release and viscosity interactions in sugar-free polyol and bulking agent solutions. *Food Res. Int.*, 2011, 44, 3202-3211, doi:10.1016/j.foodres.2011.08.005.
54. S. Sandgruber, D. Much, U. Amann-Gassner, H. Hauner, A. Buettner. Sensory and molecular characterisation of the protective effect of storage at  $-80^{\circ}\text{C}$  on the odour profiles of human milk. *Food Chem.*, 2011, 130, 236–242, doi:10.1016/j.foodchem.2011.07.013.

55. C. Siefarth, O. Tyapkova, J. Beauchamp, U. Schweiggert, A. Buettner, S. Bader. Influence of polyols and bulking agents on flavor release from low-viscosity solutions. *Food Chem.*, 2011, 129, 1462-1468, doi:10.1016/j.foodchem.2011.05.115.
56. S. Sandgruber, D. Much, U. Amann-Gassner, H. Hauner, A. Buettner. Sensory and molecular characterization of human milk odour profiles after maternal fish oil supplementation during pregnancy and breastfeeding. *Food Chem.*, 2011, 128, 485-494, doi:10.1016/j.foodchem.2011.03.058.
57. M. Czerny, R. Brueckner, E. Kirchhoff, R. Schmitt, A. Buettner. Structure-odour activity relationship of volatile alkylated phenols. *Chem. Senses*, 2011, 36, 539-553, doi:10.1093/chemse/bjr009.
58. J. Beauchamp. Inhaled today, not gone tomorrow: pharmacokinetics and environmental exposure of volatiles in exhaled breath. *J. Breath Res.*, 2011, 5, 037103 (14pp), doi: 10.1088/1752-7155/5/3/037103.

## **2010**

59. J. Spitzer, S. Doucet, A. Buettner. The influence of storage conditions on flavour changes in human milk. *Food Qual. Pref.*, 2010, 21, 998-1007.
60. J. Beauchamp, F. Kirsch, A. Buettner. Real-time breath gas analysis for pharmacokinetics: monitoring exhaled breath by on-line proton-transfer-reaction mass spectrometry after ingestion of eucalyptol-containing capsules. *J. Breath Res.*, 2010, 4, 026006 (12pp), doi: 10.1088/1752-7155/4/2/026006.
61. A. Buettner, J. Beauchamp. Chemical input – sensory output: diverse modes of physiology-flavour interaction. *Food Qual. Pref.*, 2010, 21, 915-924, doi:10.1016/j.foodqual.2010.01.008.
62. J. Beauchamp, J. Frasnelli, A. Buettner, M. Scheibe, A. Hansel, T. Hummel. Characterization of an olfactometer by proton-transfer reaction mass spectrometry. *Meas. Sci. Technol.*, 2010, 21, 025801 (9pp), doi:10.1088/0957-0233/21/2/025801.
63. J. Spitzer, A. Buettner. Characterization of aroma changes in human milk during storage at -19 °C. *Food Chem.*, 2010, 120, 240-246, doi:10.1016/j.foodchem.2009.10.015.

## **2009**

64. S. Bader, M. Czerny, P. Eisner, A. Buettner. Characterisation of odour-active compounds in lupin flour. *J. Sci. Food Agric.*, 2009, 89(14), 2421-2427, doi:10.1002/jsfa.3739.
65. M. Czerny, A. Buettner. Odor-Active Compounds in Cardboard. *J. Agric. Food Chem.*, 2009, 57, 9979-9984, doi:10.1021/jf901435n.
66. A. Strube, H. Guth, A. Buettner. Identification of a medicinal off-flavour in mineral water. *Water Res.*, 2009, 43, 5216-5224.
67. M. Mertens, E. Kirchhoff, A. Buettner. The volatile constituents of frankincense – a review. *Flavour Fragr. J.*, 2009, 24, 279 – 300, doi:10.1002/ffj.1942.

68. A. Strube, A. Buettner, C. Groetzinger. Characterization and identification of a plastic off-odour in mineral water. *Water Sci. Technol.: Water Supply—WSTWS*, 2009, 9(3), 299-309, doi:10.2166/ws.2009.382.
69. O. Lasekan, A. Buettner, M. Christlbauer. Investigation of the Retronasal Perception of Palm Wine (*Elaeis guineensis*) Aroma by Application of Sensory Analysis and Exhaled Odorant Measurement (EXOM). *African J. Food Agric. Nutr. Develop.*, 2009, 9, 793-813.
70. O. Tyapkova, M. Czerny, A. Buettner. Characterisation of flavour compounds formed by  $\gamma$ -irradiation of polypropylene. *Polym. Degrad. Stabil.*, 2009, 94, 757-769, doi:10.1016/j.polymdegradstab.2009.02.006.

## **2008**

71. M. Tietz, A. Buettner, B. Conde-Petit. Changes in structure and aroma release from starch–aroma systems upon  $\alpha$ -amylase addition. *Eur. Food Res. Technol.*, 2008, 227(5), 1439-1446, doi:10.1007/s00217-008-0864-4.
72. M. Tietz, A. Buettner, B. Conde-Petit. Interaction between starch and aroma compounds as measured by proton transfer reaction mass spectrometry (PTR-MS). *Food Chem.*, 2008, 108, 1192-1199, doi:10.1016/j.foodchem.2007.08.012.
73. A. Buettner, S. Otto, A. Beer, M. Mestres, P. Schieberle, T. Hummel. Dynamics of retronasal aroma perception during consumption: Cross-linking on-line breath analysis with medico-analytical tools to elucidate a complex process. *Food Chem.*, 2008, 108, 1234-1246, doi:10.1016/j.foodchem.2007.03.042.

## **2007**

74. A. Buettner. Characterization of odor-active and volatile constituents in small-scale human milk samples. *Flav. Fragr. J.*, 2007, 22, 465-473, doi:10.1002/ffj.1822.
75. O. Lasekan, A. Buettner, M. Christlbauer. Investigation of Important Odorants of Palm wine (*Elaeis guineensis*). *Food Chem.*, 2007, 105(1), 15-23, doi:10.1016/j.foodchem.2006.12.052.

## **2. Proceedings (peer-reviewed)**

76. A. Buettner, J. Beauchamp, J. Freiherr, A. Heinlein, A. Kessler, K. Leuner, M. Metzger, M. Pischetsrieder, C. Villmann, H. Walles. Physiological impact of odorants: immediate versus post-ingestion and post-inhalation effects. In: *Flavour Science. Proceedings of the XIV Weurman Flavour Research Symposium* (A. Taylor, D. Mottram, eds), Context Products Ltd, Packington, UK, 2015, ISBN 9781899043705, pp. 285-290.
77. J. Spitzer, A. Buettner. Quantification of odour-active marker substances of fatty acid oxidation in stored milk: comparison between human and bovine milk. In: *Proceedings of the 10th Wartburg Symposium on Flavor Chemistry & Biology* (T. Hofmann, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2014, in press.
78. J. Niebler, D. Farran, C. Roussel, T. S. Balaban, A. Buettner. Synthesis of new thioterpenoid odorants with unexpected mushroom-like flavour qualities. In: *Proceedings of the 10th Wartburg Symposium on Flavor Chemistry & Biology* (T.

- Hofmann, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2014, in press.
79. A. Heinlein, E. Neufeld, A. Buettner. The fate of aroma compounds in the gastrointestinal tract – experiments comparing fed and fasted conditions. In: Proceedings of the 10th Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2014, in press.
  80. K. Lorber, P. Schieberle, A. Buettner. Structure-odour relationships of alka-1,5-dien-3-ones, alk-1-en-3-ones, alka-1,5-dien-3-ols and alk-1-en-3-ols. In: Proceedings of the 10th Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2014, in press.
  81. A. Strube, M. Czerny, A. Buettner. Determination of odor properties of ortho and para halogenated phenols. In: Flavour Science. Proceedings of the 13<sup>th</sup> Weurman Flavour Research Symposium, Zaragossa, Spain (Ferreira V, Lopez R, Eds.). Elsevier, San Diego, USA, 2014, pp.557-561.
  82. I. Almstätter, J. Müller, M. W. Pfaffl, A. Buettner. Determination of Cell Morphology under 1,8-Cineole Treatment in Porcine Intestinal Cells. In: Flavour Science. Proceedings of the 13<sup>th</sup> Weurman Flavour Research Symposium, Zaragossa, Spain (Ferreira V, Lopez R, Eds.). Elsevier, San Diego, USA, 2014, pp.65-70.
  83. A. Kessler, C. Villmann, H. Sahin, A. Buettner. Electrophysiological characterization of neurotropic activity of Sideritis tea volatiles. In: Flavour Science. Proceedings of the 13<sup>th</sup> Weurman Flavour Research Symposium, Zaragossa, Spain (Ferreira V, Lopez R, Eds.). Elsevier, San Diego, USA, 2014, pp.71-76.
  84. A. Heinlein, A. Buettner. Monitoring of Hop Aroma Compounds in an *In vitro* Digestion Model. In: Flavour Science. Proceedings of the 13<sup>th</sup> Weurman Flavour Research Symposium, Zaragossa, Spain (Ferreira V, Lopez R, Eds.). Elsevier, San Diego, USA, 2014, pp.77-82.
  85. F. Kirsch, K. Horst, J. Beauchamp, M. Rychlik, A. Buettner. Transfer of a pharmacological aroma preparation into human milk – monitoring of substance profiles depending on physiological transition processes. In: Advances and challenges in flavour chemistry & biology, Proceedings of the 9<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, W. Meyerhof, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2011, 257-260.
  86. S. Sandgruber, D. Much, U. Amann-Gassner, H. Hauner, A. Buettner. Do maternal dietary food aromas influence flavour profiles of human milk? – a fishy example. In: Advances and challenges in flavour chemistry & biology, Proceedings of the 9<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, W. Meyerhof, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2011, 267-271.
  87. S. Doucet, C. Hartmann, R. Dittrich, B. Schaal, A. Buettner. Do overlapping odour constituents in human milk and amniotic fluid explain undifferentiated attraction in newborns? In: Advances and challenges in flavour chemistry & biology, Proceedings of the 9<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, W. Meyerhof, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2011, 39-44.

88. M. Czerny, R. Brueckner, A. Buettner. Sensory properties of homologous series of volatile alkylated phenols. In: Advances and challenges in flavour chemistry & biology, Proceedings of the 9<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, W. Meyerhof, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2011, 82-87.
89. A. Buettner. In vivo flavour monitoring: from stimulation via perception to appreciation. In: Advances and challenges in flavour chemistry & biology, Proceedings of the 9<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, W. Meyerhof, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2011, 47-54.
90. A. Buettner. Characterization of food perception: tracing the chemosensations that drive our appetite. In: Expression of multidisciplinary flavour science, Proceedings of the 12<sup>th</sup> Weurman Aroma symposium (I. Blank, M. Wüst, C. Yeretian, eds), ZHAW Zürcher Hochschule für Angewandte Wissenschaften, Switzerland, 2010, 95-100.
91. A. Strube, A. Buettner. The Influence of the Chemical Structure on Odor Qualities and Odor Potencies in Chloro-organic Substances. In: Expression of multidisciplinary flavour science, Proceedings of the 12<sup>th</sup> Weurman Aroma symposium (I. Blank, M. Wüst, C. Yeretian, eds), ZHAW Zürcher Hochschule für Angewandte Wissenschaften, Switzerland, 2010, 486-489.
92. M. Czerny. Intense odorants of cardboard and their transfer to foods. In: Expression of Multidisciplinary Flavour Science. Proceedings of the 12<sup>th</sup> Weurman Symposium, Interlaken, Schweiz (I. Blank, M. Wüst, C. Yeretian, Eds.) Zürcher Hochschule für Angewandte Wissenschaften, Winterthur, 2010, 257-260.
93. K. Buhr, A. Buettner, P. Schieberle. Troubleshooting proton transfer reaction - mass spectrometry. In: Proceedings of the 8<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, T. Rothe, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2007, 185-190.
94. M. Tietz, A. Buettner, B. Conde-Petit. Starch flavor interactions : impact of starch structure and release from food model systems. Proceedings of the 8<sup>th</sup> Wartburg Symposium on Flavor Chemistry & Biology (T. Hofmann, T. Rothe, P. Schieberle, eds), Eigenverlag Deutsche Forschungsanstalt für Lebensmittelchemie, Garching, Germany, 2007, 429-432.

### **3. Proceedings (non/nicht-peer-reviewed)**

95. A. Buettner, J. Beauchamp, J. Freiherr. Understanding human perception and response during aroma evaluation and tasting of wine. Proceedings of the 15th Australian Wine Industry Technical Conference 2013.
96. J. Beauchamp, A. Buettner, M. Wagenstaller, F. Kirsch. Contributions to the human exposome from inhalation and ingestion, Pittcon 2014, Chicago, IL, USA, March 2014.
97. E. Zardin. Innovative concepts for packaging of natural cosmetics from food packaging technology. Applications and expertise at the Fraunhofer Institute for Process Engineering and Packaging (IVV), BDIH-Workshop Kosmetikrohstoffe, Mannheim, Germany, 2013.
98. J. Beauchamp, I. Kohl, J. Herbig, J. Dunkl, K. Winkler, R. Gutmann, F. Cakar-Beck, C. Boesmueller, O. Tietje, M. Tiefenthaler, A. Wisthaller, M. Breitenlechner, S. Langebner,

- A. Zabernigg, F. Reinstaller, A. Hansel. Is renal function reflected in breath? A potential non-invasive biomarker for kidney transplant acceptance? 3<sup>rd</sup> Munich Biomarker Conference, Munich, Germany, 2013.
99. J. Beauchamp, P. Silcock, E. Zardin, M. Alothman, C. Siefarth, S. Heenan, P. Bremer. Monitoring milk spoilage from microbial activity and oxidative degradation using PTR-MS, 3<sup>rd</sup> MS Food Day, Trento, Italy, 2013.
100. J. Beauchamp. Charakterisierung der Aromafreisetzung, Fraunhofer-Tag: Mikroverkapselung und Partikelanwendungen, Munich, Germany, 2013.
101. E. Zardin, C. Siefarth, P. Silcock, M. Alothman, P. J. Bremer, S. Heenan, J. Beauchamp. Monitoring changes in the volatiles of bottled cow milk during refrigerated storage by proton transfer reaction - mass spectrometry, 5th International Cold Chain Management Workshop, Bonn, Germany, 2013.
102. I. Kohl, J. Beauchamp, F. Cakar-Beck, J. Herbig, J. Dunkl, O. Tietje, M. Tiefenthaler, C. Boesmueller, A. Wisthaler, M. Breitenlechner, S. Langebner, A. Zabernigg, F. Reinstaller, K. Winkler, R. Gutmann, A. Hansel. Breath gas analysis to ascertain renal function: A potential non-invasive biomarker for organ acceptance? Breath Analysis Summit 2013, Saarbrücken, Germany, 2013.
103. J. Beauchamp. Advanced analytical methods for tracing odorants in food and sensorial applications, 245th ACS National Meeting & Expo, New Orleans, LA, USA 2013.
104. J. Beauchamp, A. Buettner. On-line breath gas analysis for monitoring pharmacokinetics of volatile organic compounds in humans, Bayern Innovativ Forum Life Science, Garching, Germany, 2013.
105. F. Kirsch, J. Beauchamp, K. Horst, M. Rychlik, A. Buettner. Übergang des Aromastoffs 1,8-Cineol und seiner Metabolite in Muttermilch. 64. Arbeitstagung des Regionalverbandes Bayern der Lebensmittelchemischen Gesellschaft, Oberschleißheim, Germany, 2013.
106. E. Zardin, O. Tyapkova, S. Mittermaier, A. Buettner J. Beauchamp. Applications of PTR-TOF-MS in food chemistry: discrimination of isobaric aroma compounds and monitoring of lipoxygenase-derived volatile formation. 6<sup>th</sup> International PTR-MS Conference, Obergurgl, Austria, 2013, pp 71-73.
107. J. Beauchamp, D. Kern, M. Scheibe, M. Y. Denzer, N. Thürauf, A. Buettner. PTR-MS applications in olfactology: detection of odorants at the human nasal receptor sites. 6<sup>th</sup> International PTR-MS Conference, Obergurgl, Austria, 2013, pp 28-31.
108. I. Kohl, J. Beauchamp, F. Cakar-Beck, J. Herbig, J. Dunkl, O. Tietje, M. Tiefenthaler, C. Boesmueller, A. Wisthaler, M. Breitenlechner, S. Langebner, A. Zabernigg, F. Reinstaller, K. Winkler, R. Gutmann, A. Hansel. Non-invasive detection of renal function via breath gas analysis: A potential biomarker for organ acceptance? 6<sup>th</sup> International PTR-MS Conference, Obergurgl, Austria, 2013, pp 24-27.
109. A. Strube. Fehlgerüche in Getränken: Charakterisierung und Entwicklung von Vermeidungsstrategien. 7. Bad Kissinger Mineralwassertag, Bad Kissingen, Germany 2012.
110. E. Zardin, O. Tyapkova, A. Buettner, A. Wisthaler, T. Mikoviny and J. Beauchamp: Novel applications of PTR-MS technology for aroma compound analysis, 2<sup>nd</sup> MS Food Day, Trieste, Italy, 2011.

111. O. Benjamin, P. Silcock, J. Kieser, J. Beauchamp, A. Buettner and D. W. Everett. Development of model mouth to investigate the dynamic release of volatile compounds under artificial tongue pressure, 2<sup>nd</sup> MS Food Day, Trieste, Italy, 2011.
112. J. Beauchamp. On-line flavour analysis – Novel techniques and applications, 13<sup>th</sup> Weurman Flavour Research Symposium, Zaragoza, Spain, 2011.
113. J. Beauchamp. Innovative Messtechniken am Fraunhofer IVV für Lebensmitteleigenschaften, Schokolade und Süßwaren. 47. Sitzung, Freising, Germany, 2011.
114. C. Siefarth, O. Tyapkova, J. Beauchamp, U. Schweiggert, A. Buettner, S. Bader. Influence of polyols and bulking agents on flavor release. Proceedings of the 5th PTR-MS conference, Obergurgl, Austria, 2011, 116-119.
115. J. Beauchamp, A. Buettner. From pharmacokinetics to sensory science: the versatility of PTR-MS in a multidisciplinary environment. Proceedings of the 5th PTR-MS conference, Obergurgl, Austria, 2011, 25-28.
116. J. Beauchamp. Breath gas analysis for pharmaco and toxicokinetics, Exhaled Breath Analysis: From Sensors to Devices and Applications, Barga, Italy, 2010.
117. J. Beauchamp. Offensive versus pleasant odours: analytical techniques to characterise physiological and behavioural responses, European Chemosensory Research Organization XX<sup>th</sup> Congress, Avignon, France, 2010.
118. A. Buettner. Die Welt des Lebensmittelgenusses: Sind unsere Präferenzen angeboren oder erlernt? Moderne Ernährung heute (R. Matissek, ed.), Kompendium wissenschaftlicher Pressedienste Band 8, 2010, 33-40.
119. J. Beauchamp. Latest developments and applications for on-line VOC analysis using PTR-MS technology, PMI R&D Flavor Symposium, Neuchatel, Switzerland, 2009.
120. A. Strube, O. Tyapkova, M. Czerny, A. Buettner. Sensory analytics: characterization and identification of off-flavors in packaged food. 11. Workshop: Geruch und Emissionen bei Kunststoffen, Kassel, 2009, 14-1 – 14-9.
121. A. Buettner, J. Beauchamp. Objectifying human perception: When physiology and psychology deceives analytics. Proceedings of the 4th PTR-MS conference, Obergurgl, Austria, 2009, 56-60.
122. J. Beauchamp, J. Frasnelli, A. Buettner, M. Scheibe, A. Hansel, T. Hummel. PTR-MS Characterisation of an Olfactometer. Proceedings of the 4th PTR-MS conference, Obergurgl, Austria, 2009, 186-190.
123. M. Czerny, Fehlentwicklung von Aromen: Ursachenforschung an Verpackungen und Lebensmitteln. In: Lebensmittel verpacken: Qualität – Convenience – Sicherheit. Jahrestagung, Fraunhofer-Institut für Verfahrenstechnik und Verpackung, Freising. Fraunhofer IRB Verlag, 2009.
124. A. Buettner. Nahrungsprägung und Lebensmittel-Präferenz: Angeboren oder erlernt? In: Flavor – Neue Lebensmittel für den modernen Verbrauchergeschmack, Proceedings der Fraunhofer IVV Jahrestagung, 2008, 21-28.
125. M. Czerny, O. Tyapkova. Aromaanalytik – instrumentelle und sensorische Lösungen für Lebensmittel und Verpackungen. In: Flavor – Neue Lebensmittel für den modernen

Verbrauchergeschmack. Jahrestagung, Fraunhofer-Institut für Verfahrenstechnik und Verpackungen, Freising, Fraunhofer IRB Verlag, 2008, 101-122.

126. S. Bader, P. Eisner, K. Hasenkopf, M. Schott, M. Czerny, A. Buettner. Optimierung der sensorischen Eigenschaften von Lupinenproteinpräparaten. In: Flavor – Neue Lebensmittel für den modernen Verbrauchergeschmack, Proceedings der Fraunhofer IVV Jahrestagung, 2008, 51-61.
127. A. Strube. Kann Mineralwasser riechen? Charakterisierung von Fehlparfums. In: Flavor – Neue Lebensmittel für den modernen Verbrauchergeschmack, Proceedings der Fraunhofer IVV Jahrestagung, 2008, 93-100.

#### 4. Other articles / Publikationen in nicht referierten Journalen

128. J. Beauchamp. Current Sampling and Analysis Techniques in Breath Research – Results of a Task Force Poll, Journal of Breath Research, submitted 12/8/2015 (in press).
129. J. Beauchamp. A Breath of Fresh Air for Clinical Diagnoses, EBioMedicine, 2, 1030-1031, 2015. (doi: 10.1016/j.ebiom.2015.08.020)
130. J. D. Pleil, J. D. Beauchamp, W. Miekisch, W. E. Funk. Adapting biomarker technologies to adverse outcome pathways (AOPs) research: Current thoughts on using in vivo discovery for developing in vitro target methods, Journal of Breath Research, 9, 039001, 2015 (doi: 10.1088/1752-7155/9/3/039001).
131. J. Beauchamp, T. H. Risby. A recognition of David Smith's unique contributions to the field of breath analysis, Journal of Breath Research, 8, 030201, 2014 (doi: 10.1088/1752-7155/8/3/030201).
132. J. Niebler, A. Buettner. Quantification of odor active compounds from *Boswellia sacra* frankincense by stable isotope dilution assays (SIDA) in combination with TDU-GC-MS. Lebensmittelchemie, 2015, Lebensmittelchemie, 69, 79–83 doi: 10.1002/lemi.201590031.
133. F. Kirsch, A. Büttner. Mit der Muttermilch aufgesaugt. Ernährung heute 3, 2014, 10-12.
134. M. Pischetsrieder, A. Hess, A. Büttner, C. Villmann. Neurotrition. Spezial Lebensmittelchemie, Lab&More, 2014, 6.14, 14-18.
135. A. Kessler, C. Villmann, A. Buettner, M. Pischetsrieder. Identifikation GABA-aktiver Lebensmittelinhaltsstoffe. Lebensmittelchemie 67, 2013, 63.
136. J. D. Pleil, W. Miekisch, M. Stiegel, J. Beauchamp. Extending breath analysis to the cellular level: Current thoughts on the human microbiome and the expression of organic compounds in the human exposome, *J. Breath Res.* 2014, 8, 029001, doi: 10.1088/1752-7155/8/2/029001.
137. M. Selzer. Sensorische und instrumentelle Analyse von Aromen. Ernährungsumschau International 12/201, doi:10.4455/eu.2013.043.
138. J. D. Beauchamp, J. D. Pleil. Simply breath-taking? Developing a strategy for consistent breath sampling. *J. Breath Res.* 2013, 7 042001 (3pp), doi:10.1088/1752-7155/7/4/042001.
139. A. Buettner: Analytik von Gerüchen: Die Nase als Detektor, *analytica pro* 2012, 56-58.

140. J. Beauchamp: Von Pharmakokinetik bis zur Sensorik, GIT Labor-Fachzeitschrift, 2. Ausgabe 2012, 85-87.
141. T. Schmidt, D. Sabo, A. Strube, Mineralwasser ohne Fehleraromen: Ganzheitliches Konzept für Mineralwasser-Behandlung, Getränkeindustrie, 2011, 5, 28-31.
142. F. Kirsch, J. Beauchamp, K. Horst, M. Rychlik, A. Buettner. Übergang des Aromastoffs 1,8-Cineol und seiner Metabolite in Muttermilch. Lebensmittelchemie 67, 2013, 63.
143. A. Buettner. Was ist eigentlich Aromaforschung? Forschung und Lehre, 6, 2013, 484-485.
144. A. Buettner. Moderne Geruchsstoff-Analytik: ein facettenreiches Forschungsgebiet mit hohem Anwendungspotential. Analyticapro 2012.
145. A. Buettner, J. Beauchamp: The smell of Fraunhofer – sensory assessments meets odorant analytics, AChemS Annual Newsletter 2011.
146. A. Strube, Mineralwasser: Identifizierung des medizinischen Fehleraromas, Deutsche Lebensmittel Rundschau, 2010, 654-660A.
147. A. Strube, A. Büttner. Identifizierung von Fehleraromen – Kann Mineralwasser riechen? Getränke!, 2010, 15 (2), 54-56.
148. A. Strube, Die menschliche Nase ist als empfindlichster Detektor unerlässlich, Getränkeherstellung, 2010.
149. M. Czerny, A. Strube, A. Büttner. Lebensmittelaromen - Identifizierung geruchsaktiver Verbindungen. Deut. Lebensm.-Rundschau DLR Spezial 2010, 106, 48-52.
150. M. Mertens, A. Büttner. Vergleich der Geruchscharakteristika des Kauweihrauchs Luban mit den handelsüblichen Weihrauch-Varietäten *Boswellia sacra* und *Bowellia serrata*. Lebensmittelchemie 64, 2010, 95.
151. J. Spitzer, A. Buettner. Aromastabilität von Muttermilch während der Lagerung bei -20 °C. Aktuelle Wochenschau der Gesellschaft Deutscher Chemiker (GDCh), Woche 50, 2009; <http://www.aktuelle-wochenschau.de/w50/woche50.html>.
152. A. Buettner. Über die Komplexität und Individualität des menschlichen Geschmacks. *Journal Culinaire* 2008, 7, 29-35.
153. A. Buettner, A. Strube, F. Welle. Ist Verpackungssensorik normbar? *Verpackungs-Rundschau* 2007, 6, 97-99.
154. A. Buettner, A. Beer. Anleitung zur Weinverkostung. Die physiologischen Geheimnisse der Geruchs- und Geschmackswahrnehmung. *Journal Culinaire* 2007, 4, 58-67.

## 5. Books and chapters / Bücher und Buchbeiträge

155. J. Beauchamp, J. Herbig: Proton-Transfer-Reaction Time-of-Flight Mass Spectrometry (PTR-TOFMS) for Aroma Compound Detection in Real-Time: Technology, Developments, and Applications in The Chemical Sensory Informatics of Food: Measurement, Analysis, Integration, Guthrie, B.; Beauchamp, J.; Buettner, A.; Lavine, B. K., Eds.; American Chemical Society, 2015, pp 235-251.

156. J D Beauchamp and J D Pleil: Breath: an often overlooked medium in biomarker discovery in Biomarker Validation: Technological, Clinical and Commercial Aspects (Eds. H Seitz & S Schumacher) Wiley-VCH, Weinheim, Germany, 2015, ISBN: 978-3-527-33719-4.
157. The Chemical Sensory Informatics of Food: Measurement, Analysis, Integration (B. Guthrie, J. Beauchamp, A. Buettner, B. Lavine, eds.). ACS Symp Ser. 1191, 2015, doi: 10.1021/bk-2015-1191.
158. A. Buettner, J. Beauchamp, M. Wagenstaller: *Physiological impact of flavour compounds* in Flavour development, analysis and perception in food and beverages (Eds. J K Parker, S Elmore & L Methven) Woodhead Publishing, Cambridge, UK, 2014, ISBN: 978-1-782-42103-0.
159. A. Buettner. Human milk odour profiles. In: Handbook of dietary and nutritional aspects of human breast milk. Prevention, treatment and toxicity (Eds S. Zibadi, R. Watson, V. Preedy), Wageningen Academic Publishers, 2013, ISBN: 978-90-8686-209-2, pp. 725-742.