

## **PUBLICATIONS PROF. DR. CHAHAN YERETZIAN**

Full Publications List can be Found on: [https://www.zhaw.ch/storage/Isfm/institute-zentren/icbt/analytische-chemie/analytische\\_technologien/coffee-excellence-center/YERETZIAN-Chahan-Publications.pdf](https://www.zhaw.ch/storage/Isfm/institute-zentren/icbt/analytische-chemie/analytische_technologien/coffee-excellence-center/YERETZIAN-Chahan-Publications.pdf)

### **1. PUBLICATIONS IN INTERANTIONAL PEER-REVIEWED JOURNALS**

- 1 Manfred M. KAPPES, Peter RADl, Martin SCHÄR, Chahan YERETZIAN, Ernst SCHUMACHER  
***Shell Closings and Geometric Structure Effects. A Systematic Approach to the Interpretation of Abundance Distributions Observed in Photoionization Mass Spectra for Alkali Cluster Beams***  
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- 2 Manfred M. KAPPES, Martin SCHÄR, Ursula RÖTHLISBERGER, Chahan YERETZIAN, Ernst SCHUMACHER  
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- 3 Ernst SCHUMACHER, Fritz BLATTER, Martin FREY, Ueli HEIZ, Ursula RÖTHLISBERGER, Martin SCHÄR, Arthur VAYLOYAN, Chahan YERETZIAN  
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- 7 E.G. GILLAN, Chahan YERETZIAN, Kyu S. MIN, Marcos M. ALVAREZ, Robert L. WHETTEN, Richard B. KANER  
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- 27 Imre BLANK, Laurent B. FAY, Bernard A. GOODMAN, Ederlinda C. PASCUAL, Richard H. STADLER, Chahan YERETZIAN  
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- 28 Ennio CANTERGIANI, Hugues BREVARD, Renato AMADÓ, Yves KREBS, Alejandro FERIA-MORALES, Chahan YERETZIAN  
***Characterisation of Mouldy/Earthy Defect in Green Mexican Coffee***  
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- 30 Ralph DORFNER, Ralf ZIMMERMANN, Chahan YERETZIAN, Antonius KETTRUP  
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- 38 Ralph DORFNER, Thomas FERGE, T. UCHIMURA, Chahan YERETZIAN, Ralf ZIMMERMANN, Antonius KETTRUP  
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***Evidence of Different Flavor Formation Dynamics by Roasting Coffee from Different Origins: On-Line Analysis with PTR-ToF-MS***  
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***Rapid and direct aroma profiling of black and green teas (Camellia sinensis) from different origin countries with PTR-ToF-MS***  
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***Investigating Coffee Samples by Raman Spectroscopy for Quality Control - Preliminary Study***  
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- 85 Bettina RÖCKER, Nadine RÜEGG, Alexia N. GLÖSS, Chahan YERETZIAN, Selçuk YILDIRIM  
***Inactivation of Palladium-based Oxygen Scavenger by Volatile Sulphur Compounds Present in the Headspace of Packaged Food***  
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Phytochemical Analysis (ISSN: 1099-1565): Special issue on "Bioassay-coupled Chromatography: Challenges and Applications in Natural Product Research"  
Guest Editors: Franz BUCAR, Evelyn WOLFRAM  
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***Time-Resolved Gravimetric Method To Assess Degassing of Roasted Coffee***  
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***Data on roasted coffee with specific defects analyzed by infrared-photoacoustic spectroscopy and chemometrics***  
 Data in Brief, accepted (2018)
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- 92 José A. SÁNCHEZ-LÓPEZ, Sine YENER, Tilmann D. MÄRK, Günther BONN, Ralf ZIMMERMANN, Franco BIASIOLI, Chahan YERETZIAN  
***Extraction Dynamics of Tea Volatile Compounds as a Function of Brewing Temperature, Leaf Size and Water Hardness: On-Line Analysis by PTR-ToF-MS***  
 Talanta, Submitted
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## 2. PEER-REVIEWED BOOKS / MONOGRAPHS

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- 1/ 93 Imre BLANK, Matthias WÜST, Chahan YERETZIAN; **Editors of Book of Abstract**  
***Expression of Multidisciplinary Flavour Science – 12th Weurman Symposium***  
*Co-editor of Book of Abstract (<http://www.icbc.zhaw.ch/weurman2008>)*  
 Publisher: Zurich University of Applied Science, Winterthur (2010)  
 ISBN-13: 978-3-905745-19-1
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- 2/ 94 Jürgen STÖHNER, Chahan YERETZIAN; **Editors of Book of Abstract**  
 Organized the: “20<sup>th</sup> Symposium on Atomic, Cluster and Surface Physics”  
 February 7 - 12, 2016 at the Sunstar Hotel in Davos, Switzerland  
 Publisher: innsbruck university press (2016)  
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- 3/ 95 Marco WELLINER, Samo SMRKE, Chahan YERETZIAN  
***The SCAE Water Chart “Measure, Aim, Treat”***  
 Publisher: SCAE –Specialty Coffee Association of Europe  
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- 4/ 96 Marco WELLINGER, Samo SMRKE, Chahan YERETZIAN  
***The Water Quality Handbook A Systematic Guide to Water Fundamentals***  
 A Specialty Coffee Association (SCA) Handbook, Edition No. 2 (2018), in press (to appear on April 18<sup>th</sup> 2018)
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- 5/ 97 Samo SMRKE, Emma SAGE, Marco WELLINGER, Chahan YERETZIAN  
***The Coffee Freshness Handbook***  
 A Specialty Coffee Association (SCA) Handbook, (2018), 81 pages, in press (to appear on April 18<sup>th</sup> 2018)
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## 3. PEER-REVIEWED CONFERENCE PROCEEDINGS

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***Laser-Desorption Mass Spectrometry and Induced Coalescence of Fullerenes***  
*Conference Proceedings: SPIE-Proceedings Vol. 1857 “Lasers & Optics for Surface Analysis”*; Bellingham; WA:  
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- 2/ 99 Ralf ZIMMERMANN, Hans Jörg HEGER, Ralph DORFNER, Chahan YERETZIAN, Antonius KETTRUP, Ulrich BOESL  
***On-Line Monitoring of Food Volatiles by Laser Ionization Mass Spectrometry (REMPI-TOFMS): First Results for Coffee, Tea and Cocoa***  
*Conference Proceedings: Proceedings of the 1<sup>st</sup> International Convention on Food Ingredients: New Technologies, Cuneo (Italy), 343-350, 15-17 September (1997)*
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- 3/ 100 Chahan YERETZIAN, Alfons JORDAN, Armin HANSEL, Werner LINDINGER  
***On-Line Monitoring of Volatile Compounds in the Headspace of Food Products by Proton-Transfer-Reaction Mass-Spectrometry (PTR-MS)***  
*Conference Proceedings: Symposium on Atomic and Surface Physics and Related Topics 1998 (SASP 98), Going/Kitzbühel Austria 25-30 January 1998, Conference proceedings pages 4-168 to 4-170, (1998)*
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***Laser Ionization Mass Spectrometry (REMPI-TOFMS) for On-line Analysis of Volatiles in Food Science: Coffee Roasting and Headspace Experiments***  
*Conference Proceedings:* In "Resonance Ionization Spectroscopy", Proceedings of the 9<sup>th</sup> Resonance Ionization Spectroscopy Symposium; J.C. Vickerman; I. Lyon, N.P. Lockyer, J.E. Parks, Eds.; June 1998, Manchester, UK, American Institute of Physics (AIP)-Conference Proceedings Series, AIP-Press New York, 309-312 (1998)
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- 5/ 102 Chahan YERETZIAN, Alfons JORDAN, Werner LINDINGER  
***On-line analysis of volatiles emitted during roasting of coffee***  
*Conference Proceedings:* XII<sup>th</sup> Symposium on Atomic and Surface Physics and related topics (SASP2000), Costa di Folgaria (Trento) Italy 31 Jan- 4 Feb 2000, January 30 - February 5, 2000, Conference proceedings, (2000)
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- 6/ 103 Ralph DORFNER, Thomas FERGE, Chahan YERETZIAN, Ralf ZIMMERMANN, Antonius KETTRUP  
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*Conference Proceedings:* Conference Proceeding on Resonant Ionization Spectroscopy, 2000, Knoxville Tennessee, Oct. 2000
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- 7/ 104 Chahan YERETZIAN, Alfons JORDAN, Martin GRAUS, Philippe POLLIEN, Werner LINDINGER  
***Applications of PTR-MS in Food Flavour Research: Recent Progress and Prospects***  
*Conference Proceedings:* XIII<sup>th</sup> Symposium on Atomic, Cluster and Surface Physics (SASP2002), Going (Austria), 17-22 Feb. 2002; Conference proceedings, page 64-66, (2002)
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- 8/ 105 Martin GRAUS, Chahan YERETZIAN, Alfons JORDAN, Werner LINDINGER  
***In-Mouth Aroma: Breath-by-Breath Analysis of Nosespace by PTR-MS While Drinking Coffee***  
*Conference Proceedings:* XIII<sup>th</sup> Symposium on Atomic, Cluster and Surface Physics (SASP2002), Going (Austria), 17-22 Feb. 2002; Conference proceedings, pages 295-299, (2002)
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- 9/ 106 Ralph DORFNER, Thomas FERGE, Chahan YERETZIAN, Antonius KETTRUP, Ralf ZIMMERMANN  
***On-line Analysis of Coffee Roasting Off-Gas with Laser Ionisation (REMPI and SPI) Mass Spectrometry. Measurement at Large Scale Roasting Facilities and On-Line Determination of the Roast Degree***  
*Conference Proceedings:* Proceedings of the 50<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, June 2-6, (2002)
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- 10/ 107 Christian LINDINGER, Philippe POLLIEN, Santo ALI, Tilmann MÄRK, Chahan YERETZIAN  
***Coupling GC-MS with PTR-MS for Unambiguous Chemical Characterisation of On-Line PTR-MS Spectra***  
*Conference Proceedings:* 1<sup>st</sup> International Conference on Proton Transfer Reaction Mass Spectrometry and its Applications; A. Hansel, T. Märk Editors; Iglis / Innsbruck, Austria; 18-23 January 2003; p. 157-160 (2003)
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- 11/ 108 Santo ALI, Philippe POLLIEN, Christian LINDINGER, Chahan YERETZIAN  
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- 12/ 109 Christian LINDINGER, Santo ALI, Andrea BUETTNER, Peter SCHIEBERLE, Christoforos STOUPIS, Peter VOCK, Chahan YERETZIAN  
***Simultaneous real-time magnetic resonance imaging (MRI) and nose-space analysis by proton-transfer-reaction mass-spectrometry during eating.***  
*Conference Proceedings:* Conference Proceedings: 226<sup>th</sup> ACS National Meeting of the American-Chemical-Society, New York, NY, United States, September 7-11, 2003 (2003), Publisher: American Chemical Society, Washington, D. C  
 In: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY; Volume: 226; pp: U75-U75; Part 1 Meeting Abstract: 153-AGFD; September (2003)
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***Progress and Prospects of PTR-MS in Food Science***  
*Conference Proceedings:* 1<sup>st</sup> International Conference on Proton Transfer Reaction Mass Spectrometry and its Applications; A. Hansel, T. Märk Editors; Iglis / Innsbruck, Austria; 18-23 January 2003; p 80-81 (2003)
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- 14/ 111 Imre BLANK, Philippe POLLIEN, Chahan YERETZIAN  
***A New Application of PTR-MS: Aroma Generation through the Maillard Reaction***  
*Conference Proceedings:* 1<sup>st</sup> International Conference on Proton Transfer Reaction Mass Spectrometry and its Applications; A. Hansel, T. Märk Editors; Iglis / Innsbruck, Austria; 18-23 January 2003; p 87-90 (2003)
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- 15/ 112 Ederlinda C. PASCUAL, Chahan YERETZIAN, Katharina F. PIRKER, Bernard A. GOODMAN  
**Antioxidant, pro-oxidant and free radical processes in Coffee**  
*Conference Proceedings:* 3rd International Symposium on Natural Antioxidants/2nd Meeting of the Society-for-Free-Radical-Research Asia (SFRR Asia), JUN 24-29, 2005 Shanghai  
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- 16/ 113 Philippe POLLIEN, Christian LINDINGER, Alexia N. GLÖSS, Chahan YERETZIAN  
**Measuring Partition Coefficients of VOCs Using a Dynamic, PTR-MS-Coupled Method**  
*Conference Proceedings:* 4<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, T. Märk - Editors; Universitätszentrum Obergurgl, Obergurgl - Austria; 6<sup>th</sup> February - 21<sup>st</sup> February 2009; *innsbruck university press*, 2009, ISBN 978-3-902571-99-1, 221-226 (2009)
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- 17/ 114 Chahan YERETZIAN, Philippe POLLIEN, Martin GRAUS  
**Coffee Roasting: Exploring the Impact of the Time-Temperature Profile on the Formation Kinetics of Volatile Organic Compounds by PTR-MS**  
*Conference Proceedings:* 4<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, T. Märk - Editors; Universitätszentrum Obergurgl, Obergurgl - Austria; 6<sup>th</sup> February - 21<sup>st</sup> February 2009; *innsbruck university press*, 2009, ISBN 978-3-902571-99-1, 66-71 (2009)
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- 18/ 115 Imre BLANK, Jürg BAGGENSTOSS, Luigi POISSON, Josef KERLER, Andreas RYTZ, Philippe POLLIEN, Christian LINDINGER, Chahan YERETZIAN  
**Advanced predictive tools based on holistic and targeted approaches for the analytical-sensory correlation of coffee aroma**  
*Conference Proceedings:* 5<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 26<sup>th</sup> January – 2<sup>nd</sup> February; *Innsbruck university press*, ISBN 978-3-902719-88-1, 99-102 (2011)
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- 19/ 116 Alexia N. GLOESS, Chahan YERETZIAN, Anita VIETRI, Sandra BONGERS, Thomas KOZIOROWSKI  
**Process Monitoring by PTR-ToF-MS : Applications on Profile Roasting of Coffee**  
*Conference Proceedings:* 5<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 26<sup>th</sup> January – 2<sup>nd</sup> February; *innsbruck university press*, ISBN 978-3-902719-88-1, 109-112 (2011)
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- 20/ 117 Chahan YERETZIAN, Alexia N. GLOESS, Flurin WIELAND, Barbara ZURFLUH  
**Applications of PTR-ToF-MS on Coffee**  
*Conference Proceedings:* 5<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 26<sup>th</sup> January – 2<sup>nd</sup> February; *innsbruck university press*, ISBN 978-3-902719-88-1, 129-132 (2011)
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- 21/118 Flurin WIELAND, Alexia N. GLOESS, Chahan YERETZIAN  
**Measuring Partition Coefficients of VOCs and their Temperature Dependence by Dynamic Stripping and Proton-Transfer Reaction Time-of-Flight Mass Spectrometry (PTR-ToF-MS) - Poster**  
*Conference Proceedings:* 5<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 26<sup>th</sup> January – 2<sup>nd</sup> February; *innsbruck university press*, ISBN 978-3-902719-88-1, 158 (2011) - Poster
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- 22/ 119 Alexia N. GLOESS, Marco WELLINGER, Barbara SCHÖNBÄCHLER, Flurin WIELAND, Christian LINDINGER, Chahan YERETZIAN  
**Predicting the Sensory Profiles of Coffee based on PTR-ToF-MS and GC-MS Measurements**  
*Conference Proceedings:* 6<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 3<sup>rd</sup> – 8<sup>th</sup> February; *Innsbruck university press*, ISBN 978-3-902811-91-2, 54-57 (2013)
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- 23/ 120 Chahan YERETZIAN, Alexia N. GLOESS, Barbara SCHÖNBÄCHLER, Marco WELLINGER, Angela NEFF, and Flurin WIELAND  
**Recent Applications of PTR-ToF-MS in Coffee Research**  
*Conference Proceedings:* 6<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 3<sup>rd</sup> – 8<sup>th</sup> February; *Innsbruck university press*, ISBN 978-3-902811-91-2, 67-70 (2013)
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- 24/ 121 Alexia N. GLOESS, Anita VIETRI, Sandra BONGERS, Thomas KOZIOROWSKI, Chahan YERETZIAN  
**On-line Analysis of the Coffee Roasting Process with PTR-ToF-MS: Evidence of Different Flavor Formation Dynamics for Different Coffee Varieties**  
*Conference Proceedings:* 6<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl – Editors; Universitätszentrum Obergurgl, Austria; 3<sup>rd</sup> – 8<sup>th</sup> February; *Innsbruck university press*, ISBN 978-3-902811-91-2, 166-169 (2013)
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- 25/ 122 Flurin WIELAND, Angela NEFF, Alexia N. GLOESS, Luigi POISSON, Imre BLANK, Daniel PRÉTRE, Christian MILO, Chahan YERETZIAN  
**Automated Setup for High Precision Measurements of Henry Law Constants of Volatile Organic Compounds over a Large Temperature Range**  
*Conference Proceedings: 6<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl – Editors; Universitätszentrum Obergurgl, Austria; 3<sup>rd</sup> – 8<sup>th</sup> February; 11Innsbruck university press, ISBN 978-3-902811-91-2, 234-237 (2013)*
- 26/ 123 José A. SÁNCHEZ LÓPEZ, Ralf ZIMMERMANN, Chahan YERETZIAN  
**Extraction-kinetics of volatile coffee aroma compounds by on-line PTR-ToF-MS**  
*Conference Proceedings: Flavour Science Proceedings of the XIV Weurman Flavour Research Symposium; A. Taylor, D. Mottram – Editors; Queens’ College, Cambridge, UK; 15<sup>th</sup> – 19<sup>th</sup> September 2014; Context Products Ltd, United Kingdom, ISBN 9781899043705, 147-150 (2015)*
- 27/ 124 Marco WELLINGER, Sergio PETROZZI, Jean-Marc RENAUD, Monika CHRISTLBAUER, Chahan YERETZIAN  
**On-line PTR-ToF-MS quantification of volatile aroma compounds released during tobacco heat treatment**  
*Conference Proceedings: Flavour Science Proceedings of the XIV Weurman Flavour Research Symposium; A. Taylor, D. Mottram – Editors; Queens’ College, Cambridge, UK; 15<sup>th</sup> – 19<sup>th</sup> September 2014; Context Products Ltd, United Kingdom, ISBN 9781899043705, 253-256 (2015)*
- 28/ 125 José Antonio SÁNCHEZ-LÓPEZ, Marco WELLINGER, Alexia N. GLOESS, Ralf ZIMMERMANN, Chahan YERETZIAN  
**Extraction Kinetics of Coffee Aroma Compounds during Espresso Extraction: On-line Analysis by PTR-MS**  
*Conference Proceedings: 7<sup>st</sup> International Proton Transfer Reaction Mass Spectrometry Conference; A. Hansel, J. Dunkl - Editors; Universitätszentrum Obergurgl, Austria; 14<sup>th</sup> February - 19<sup>th</sup> February 2016; innsbruck university press – Oral Presentation*

#### 4. CONTRIBUTIONS TO BOOKS (PEER-REVIEWED)

- 1/ 126 Manfred M. KAPPES, Peter RADl, Martin SCHÄR, Chahan YERETZIAN, Ernst SCHUMACHER  
**Shell Closings and Geometric Structure Effects. A Systematic Approach to the Interpretation of Abundance Distributions Observed in Photoionization Mass Spectra for Alkali Cluster Beams**  
 In: “Metal Clusters”; eds. Frank Träger & Gisbert zu Putlitz; Springer-Verlag Berlin Heidelberg, 15-19 (1986). ISBN 978-3-642-71571-6
- 2/ 127 Manfred M. KAPPES, Martin SCHÄR, Chahan YERETZIAN, Ueli HEIZ, Arthur VAYLOYAN, Ernst SCHUMACHER  
**Alkali Clusters: Structure, Stability, Large Amplitude Motion and Chemical Properties**  
 In “Physics and chemistry of small clusters”; eds. P. Jena, B.K. Rao and S.N. Khanna; Reidel Publishing Company, Dordrecht-Holland (1987); NATO Advanced Study Institutes Series Series, Series B: Physics **158**, 145-149
- 3/ 128 Chahan YERETZIAN, Imre BLANK, Stefan PALZER  
**Flavouring of Dehydrated Convenience Food and Kitchen Aids**  
 Book Chapter in “Flavourings”; Chapter 5.4; 549-572 (2007)  
 Editors: E. Ziegler, and H. Ziegler  
 Wiley-VCH, Weinheim, Germany; ISBN: 978-3-527-31406-5 (2007)
- 4/ 129 J. Bruce GERMAN, Chahan YERETZIAN, Vladimir B. TOLSTOGUZOV  
**Olfaction, where Nutrition, Memory and Immunity Intersect**  
 Chapter 3 In: Flavours: Chemistry, Technology and Resources  
 Editor: Ralf G. BERGER  
 Publishing company: Springer Verlag Berlin, Germany; ISBN: 978-3-540-49338-9 (2007)
- 5/ 130 Sebastian E. W. OPITZ, Samo SMRKE, Bernard A. GOODMAN, Chahan YERETZIAN  
**Methodology for the measurement of antioxidant capacity of coffee: A validated platform composed of three complementary antioxidant assays**  
 Book Chapter in “Processing and Impact on Antioxidants in Beverage”  
 Chapter 26; 253-264 (2014)  
 Editor: Victor R. PREEDY; Academic Press, London; ISBN: 978-0-12-404738-9
- 6/ 131 Bernard A. GOODMAN, Chahan YERETZIAN  
**Free Radical Processes in Coffee I – Solid Samples**  
 Book Chapter in: “Processing and Impact on Active Components in Food”  
 Chapter 67; 559-566 (2015)  
 Editor: Victor R. PREEDY; Academic Press, London  
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- 7/ 132 Bernard A. GOODMAN, Chahan YERETZIAN  
**Free Radical Processes in Coffee II – Liquids**  
 Book Chapter in: “Processing and Impact on Active Components in Food”  
 Chapter 68; 567-574 (2015)  
 Editor: Victor R. PREEDY; Academic Press, London  
 DOI: 10.1016/B978-0-12-404699-3.00068-8
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- 8/ 133 Chahan YERETZIAN  
**„Special Food Aromas: The Aroma of Coffee – Status and Trends**  
 Book Chapter in: “Springer Handbook of Odor”  
 Chapter 6; 107-128 (2016)  
 Publishing company: Springer Verlag Berlin, Germany  
 Editor: Andrea BUETTNER  
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