# The Power of Programming – Developmental Origins of Adiposity and Long-Term Health

**Scientific Programme**

**Thursday, 13th October 2016**

<table>
<thead>
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<th>Time</th>
<th>Event</th>
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<tr>
<td>10.00 – 10.45</td>
<td>Opening Session: Welcome Notes and Introduction</td>
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<td>Bernd Sibler (State Secretary, Bavarian State Ministry of Education, Sciences and the Arts)</td>
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<td>“Horizon2020: Research opportunities for safe and healthy diets” - Razvan Anistoroaei (DG Research and Innovation, European Commission)</td>
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<td>Berthold Koletzko (EarlyNutrition Co-ordinator, Ludwig-Maximilians-University of Munich)</td>
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<td>10.45 – 11.30</td>
<td>Plenary session I: Chair: Wendy Oddy (Perth, Australia)</td>
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<td>The Importance of Investing in Early Nutrition – Gabrielle Conti (London, UK)</td>
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<tr>
<td>11.30 – 11.50</td>
<td>Coffee and Tea Break</td>
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Lecture Hall VI: live
Lecture Halls IV + V: live stream

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<tr>
<th>Time</th>
<th>Session</th>
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| 11.50 – 13.25 | A.1 Parallel Session                         | Lecture Hall VI| Pregnancy and Programming of Obesity and Related Disorders  
*Hosts/Chairs: Keith Godfrey & Susana da Silva Santos*  
- The Role of Epigenetic Processes in the Developmental Programming of Obesity - Karen Lillycrop (Southampton, UK)  
- Maternal Body Mass Index, Gestational Weight Gain and Risks of Adverse Pregnancy Outcomes: Individual Participant Data Meta-Analysis of 230,000 Singleton Births – S. Santos (Rotterdam, Netherlands)  
- Obesity, Related Metabolic Conditions and DNA Methylation - What Can Genome Wide DNA Methylation Studies in Cohort Studies Show Us? - Rae-Chi Huang (Perth, Australia)  
- Effectiveness of a Normative Nutrition Intervention on Maternal Nutrition and Offspring Growth: The Chilean Maternal and Infant Nutrition Cohort Study (CHiMINCs) – M.L. Garmendia (Santiago, Chile)  
- Maternal Obesity, the Gut Microbiome, and Long-Term Disease Risk- Debbie Sloboda (Hamilton, Canada) |
| 13.25 – 15.15 | Lunch Buffet + Poster Viewing               |                |                                                                                                                                                                                                          |
- Preconception and Maternal Obesity: Implications for Pregnancy Outcomes – Lucilla Poston (London, UK)  
- Effects of Maternal Obesity on the Next Generation – Keith Godfrey (Southampton, UK)  
- Interventions to Prevent Preconception and Maternal Obesity - Mark Hanson (Southampton, UK)  
- Interindividual Variation of Allergen Transfer into Human Milk – Frauke Schoker (Borstel, Germany)  
- Perinatal Factors Influencing the Breast Milk Microbiota and Bioactive Compounds Composition and their Role for Infant Health – Maria Collado (Valencia, Spain)  
- Breastfeeding Effects on Neuroimaging – Sean Deoni (Providence, USA)  

*Hosts/Chairs: Darek Gruszfeld & Marita de Waard*  
- Programming of NCDs in Preterm Infants – Focus on Growth - Ken Ong (Cambridge, UK)  
- Growth and Body Composition in Extremely Preterm Infants Is Altered Early – N. Altheyab (Queensland, Australia)  
- Programming of NCDs in Preterm Infants by Early Nutrition - Alexandre Lapillonne (Paris, France)  
- Body Composition in Preterm Infants: Comparison of Air Displacement Plethysmography and Dual-Xray Absorptiometry – C. Fusch (Hamilton, Canada)  
- Glucocorticoid-Programming in Very Preterm Birth - Martijn Finken (Amsterdam, The Netherlands)
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<tr>
<td>15.30 – 16.15</td>
<td>Lecture Hall VI: live Lecture Halls IV + V: live stream</td>
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<td>Plenary Session II:</td>
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<td>Chair: Darek Gruszfeld</td>
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<td>16.15 – 16.45</td>
<td>Coffee and Tea Break</td>
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<td>16.45 – 18.20</td>
<td>A.2 Parallel Session Interventions to Prevent Adverse Fetal Programming</td>
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<td>A.2: Lecture Hall VI</td>
<td>Hosts/Chairs: Jodie Dodd &amp; Lucilla Poston</td>
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<td>• Antenatal Interventions to Improve Maternal and Infant Outcome - Results from the ROLO Study - Fionnuala McAuliffe (Dublin, Ireland)</td>
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<td>• Effect of a Dietary and Exercise Intervention during Pregnancy and Lactation on White Adipose Tissue Gene Profiles and Adiposity with Maternal Obesity – I. Bloor (Nottingham, UK)</td>
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<td>• The UPBEAT Trial; Obesity in Pregnancy and Developmental Programming - Lucilla Poston (London, UK)</td>
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<td>• Perinatal Taurine Supplementation Improves Renal Endothelial Dysfunction in the Offspring of Diabetic Rats – N. Sompan (Pathumtani, Thailand)</td>
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<td>• The LIMIT Randomised Trial – Longer-Term Effects on Maternal and Child Health - Jodie Dodd (Adelaide, Australia)</td>
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<td>16.45 – 18.20</td>
<td>B.2 Parallel Session GDM – Early Diagnosis of Women at Risk</td>
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<td>B.2: Lecture Hall V</td>
<td>Hosts/Chairs: Mireille van Poppel and Sara White</td>
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<td>• Studying Fetal Programming in South Asian Populations: The GIFTS Study– Sarah Finer (London, UK)</td>
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<td>• Maternal Dietary Protein Intake and the Risk for Gestational Diabetes Mellitus in a Multi-Ethnic Asian Cohort: The GUSTO Study – W. W. Pang (Singapore, Singapore)</td>
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<td>• GDM: Early Identification of Obese Women at Risk-Sara White (London, UK)</td>
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<td>• Longitudinal Assessment of Maternal Anthropometric Measurements in Obese Pregnant Women: Association with Gestational Diabetes Mellitus (GDM) and Treatment – T. Serafinova (London, UK)</td>
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<td>• Women with Early Diagnosed GDM in DALI: Characteristics and Outcomes- Mireille van Poppel (Graz, Austria)</td>
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<td>16.45 – 18.20</td>
<td>C.2 Parallel Session Metabolomics and Obesity in Humans</td>
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<td>C.2: Lecture Hall IV</td>
<td>Hosts/Chairs: Christian Hellmuth &amp; Nashita Patel</td>
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<td>• Opportunities of Metabolomic Studies in the Context of Early Programming – Christian Hellmuth (Munich, Germany)</td>
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<td>• Metabolomic Profiling Identifies a Signature of Gestational Diabetes Mellitus Associated with Diet, in a Multi-Ethnic Asian Cohort – J. de Seymour (Auckland, New Zealand)</td>
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<td>• Cord Blood Metabolomics and Weight Development Later in Life: Methods and Results from the GINplus and LISplus Studies - Marie Standl (Munich, Germany)</td>
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<td>• Transgenerational Metabolomics Reveal Significant Correlations among Mother-Child Pairs – A. Kindt (Neuherberg, Germany)</td>
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<td>• Analysis of Metabolic Profiles in Adolescents from the RAINE Cohort by Clinical Targeted Metabolomics: Metabolic Consequences of Early Programming - Sebastian Rauschert (Perth, Australia)</td>
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<td>18.30</td>
<td>Welcome Reception – following Program conclusion</td>
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<td>Speaker’s Dinner (19.30 →)</td>
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Friday, 14th October 2016
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### Workshop (WS1): New Investigators Forum

**Hosts:** Manja Fleddermann & Maite Seguro  
- Evidence/Thoughts to Become a Good Researcher. A View from a University Professor’s Perspective - Lucilla Poston (London, UK)  
- Learn from Other CV’s. What are Essential Steps/Key Points for an Interesting CV? - Hans van Goudoever (Amsterdam, The Netherlands)  
- How the Society Can Benefit from University/Industry Collaboration - Ricardo Rueda (Granada, Spain)  
- What is important, if a YI applies for a position? A view from the industry - Eline van der Beek (Utrecht, The Netherlands)  
- Lecture Hall VI -

### Workshop (WS2): Methodological Aspects of Measuring Adiposity and Body Composition

**Hosts:** Veronica Luque & Martina Weber  
- Assessment of Neonatal Body Composition Using Anthropometry - Sarah Kehoe (Southampton, UK)  
- Using Bioelectrical Impedance and Leptin Levels to Predict Body Composition Leptin in Children - Veronica Luque (London, UK)  
- Linking Body Fat to Disease Risk - Manfred James Mueller (Kiel, Germany)  
- Lecture Hall V -

### Workshop (WS3): CME in Pregnancy – An e-Learning Live Course by the Early Nutrition eAcademy

**Hosts:** Brigitte Brands, Dr. Annapaula Lindsay & Simone Cramer  
- Lecture Hall IV -

### Plenary Session III  
**Chair:** Matt Gillman  
**What is Normal Pre- and Postnatal Growth** – Michelle Lampl (Atlanta, USA)

### Coffee and Tea Break

### A.3 Parallel Session

**Postnatal Nutrition**  
**Hosts/Chairs:** Wendy Oddy & Franca Kirchberg  
- Infant Nutrition and Its Effect on the Metabolome - Franca Kirchberg (Munich, Germany)  
- Early High Protein Intake and Later Metabolic Health – F. Budin-blancher (Lausanne, Switzerland)  
- A Global Perspective on the Importance of Dietary ARA and DHA Intakes from Birth to Age 3 Years - Stewart Forsyth (Dundee, Scotland)  
- Infant Feeding and Growth Trajectories in Childhood and Body Composition in Young Adulthood – W.H. Oddy (Hobart, Australia)

### B.3 Parallel Session

**Psychosocial Stress, Mental Health and Biological Impact**  
**Hosts/Chairs:** Sonja Entringer & Karen Lindsay  
- Interaction of Prenatal Psychosocial Stress and Nutrition: Implications for Maternal and Infant Metabolic Outcomes - Karen Lindsay (Dublin, Ireland)  
- Brainstem Oxidative Stress Is Associated with Hypertension and Elevated Cardiovascular Responses to Psychological Stress Following Maternal High Fat-High Sucrose diet – S. K. Jayaratne (Sydney, Australia)  
- Prenatal Stress and Fetal Programming of Obesity

### C.3 Parallel Session

**Placental Nutrient Transfer**  
**Hosts/Chairs:** Gernot Desoye & Ian Bloor  
- Maternal Gestational Diabetes Mellitus and Placental Lipids - Olaf Uhl (Munich, Germany)  
- Programming of the Endocrine Pancreas: Does Intra-Amniotic IGF1 Therapy Following Placental Restriction in Sheep Improve Insulin Secretory Capacity in Young Adulthood? – E.J. Buckels (Auckland, New Zealand)  
- Maternal Dietary Fats and Neonatal Outcome - Mike Symonds (Nottingham, UK)  
- Placental Expression of Fatty Acid Transporter Related to Maternal Pre-Pregnancy Weight – M. T. Segura

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### Friday, 14th October 2016

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**A.4 Parallel Session**  
**Early Life Gut Microbiome and Long-Term Health**  
*Hosts/Chairs: Eline van der Beek & Merete Eggesbo*  
- Determinants and Duration of Impact of Early Gut Bacterial Colonization - Christine Edwards (Glasgow, UK)  
- Pediatric Obesity Is Associated with Altered Gut Microbiota Communities – A. Riva (Milano, Italy)  
- Dysbiosis in Health and Disease – the Microbiome at Early Life Stages - Dirk Haller (Munich, Germany)  
- Maternal Exposure to a Western-Style Diet Causes Differences in Intestinal Microbiota Composition and Gene Expression of Suckling Mouse Pups – B.J.M. van de Heijning (Utrecht, Netherlands)  
- Intestinal Microbiology of Early Life- Jan Knol (Wageningen, The Netherlands)

**B.4 Parallel Session**  
**Early Nutrition in Low Resource Settings**  
*Hosts/Chairs: Mark Hanson & Ying Huang*  
- How to Do Interventions in Early Nutrition with Your Bare Hands: An Example in Guatemala - Michele Monroy Valle (Guatemala City, Guatemala)  
- Pica Practices, Food Cravings and Aversions among Pregnant Women in Kenya – L. Kariuki (Hohenheim, Germany)  
- The Triple Burden of Malnutrition in Sub-Saharan Africa: Translating Knowledge into Action - Reginald Annn (London, UK)  
- The Influence of Socioeconomic Status on Gestational Weight Gain: A Systematic Review – E. O’Brien (Dublin, Ireland)  
- Early Life Nutritional Programming of Health and Disease in The Gambia – Sophie Moore (Cambridge, UK)

**C.4 Parallel Session**  
**Early Programming of Taste and Appetite**  
*Hosts/Chairs: Elvira Verduci & Natalia Ferre*  
- Development of Food Preferences and Appetite in the First Years - Sophie Nicklaus (Dijon, France)  
- Age at Introduction of Solid Foods and Feeding Difficulties in Childhood: Findings from the Southampton Women's Survey – J. Hollies (Southampton, UK)  
- Transmission of Food Aromas into Human Milk - an Active Early Programming Trigger or rather a Passive, Metabolically-Controlled Phenomenon? - Andrea Büttner (Erlangen, Germany)  
- Antecedents of Picky Eating Behaviour in Young Children – P. Emmett (Bristol, UK)  
- Early Exposure in Promoting and Programming Healthy Eating - Marion Hetherington (Leeds, UK)

| 13.15 – 14.15 | Guided Poster Tour (max 10 posters, max. 5 min per poster)  
I – Clinical Trials Chair: Hans Demmelmair  
II – Observational Studies Chair: Vincent Jaddoe  
III – Mechanisms (cell/animal studies) Chair: Suzanne Ozanne  
| 12.45 – 14.15 | DOHaD Society Annual Business Meeting (AGM) : Closed meeting  
- Lecture Hall IV -  

### A.4 Parallel Session  
**Early Life Gut Microbiome and Long-Term Health**

- Allergy Prevention by Early Nutrition: 15 years of Follow Up in the GINI Study - Sibylle Koletzko (Munich, Germany)  
- Risk: Association of Maternal Cortisol during Gestation with Infant Body Composition - Pathik Wadhwa (Irvine, USA)  
- Newborn Insula Gray Matter Volume is Prospectively Associated with Early Life Adiposity Gain - Claudia Buss (Berlin, Germany)  
- Placental Lipids and Fatty Acid Transfer in Maternal Overnutrition - Gernot Desoye (Graz, Austria)
## Friday, 14th October 2016

### 16.05 – 16.30

**Coffee and Tea Break**

### 16.30 – 18.05

| 16.30 – 16.50 | A.5 Parallel Session  
Nutritional Epigenetics of Obesity  
Hosts/Chairs: Richard Saffery & Silvija Tokic |
|---|---|
| 16.30 – 16.50 | B.5 Parallel Session  
Catch-up Growth  
Hosts/Chairs: Hans van Goudoever & Bartek Zalewski |
| 16.30 – 16.50 | C.5 Parallel Session  
Translational Application of Programming Evidence: What is Needed?  
Hosts/Chairs: Cristina Campoy & Silke Mader |

#### A.5 Parallel Session
**Nutritional Epigenetics of Obesity**

- Does Epigenetic Variation Impact Type 2 Diabetes? - Charlotte Ling (Malmoe, Sweden)
- Epigenome-Wide Profiling Reveals Potential Differential DNA Methylation in Progeny of Women with Previous Macrosomic Babies Exposed to a Dietary Intervention in Pregnancy – A. Geraghty (Dublin, Ireland) (No. 188)
- Development, Epigenetics and Later Obesity - Keith Godfrey (Southampton, UK)
- Differential DNA Methylation within the Promoter of the Long Non Coding RNA ANRIL Is a Perinatal Marker for Later Adiposity – K. Lillycrop (Southampton, UK) (No. 128)
- Epigenome-Wide DNA-Methylation and Body Composition at Age 5 - 5 Years in the European Childhood Obesity Project (CHOP)-Study - Peter Rzehak (Munich, Germany)

#### B.5 Parallel Session
**Catch-up Growth**

- Modulating Mechanisms of Quality of Growth - Martina Weber (Munich, Germany)
- New Innovative Concept to Predict Preterm Infant's Individual Growth Trajectories – N. Rochow (Hamilton, Canada)
- Proven Benefits of Nutritional Modifications of Patterns of Growth - Bemadeta Patro-Golab (Warsaw, Poland)
- Pre-Pregnancy Maternal Body Mass Index Impacts on Child Growth Trajectories to Six Years – W. Oddy (Hobart, Australia)
- Long-Term Adverse Effects of Catch-Up Growth - Atul Singhal (London, UK)

#### C.5 Parallel Session
**Translational Application of Programming Evidence: What is Needed?**

- Why Early Prevention of Childhood Obesity is More than a Medical Concern – A Health Economic Approach - Diana Sonntag (Heidelberg, Germany)
- Science, Policy and Consumers - Understanding Infant Feeding Communication Practices - Monique Raats (Surrey, UK)
- A Multi-Dimensional Breastfeeding Intervention - A Study Protocol – G. Alberdi (Dublin, Ireland)
- How Do We Get Parents Involved? - Silke Mader (Munich, Germany)

### 19.30

**Conference Dinner: Bavarian Evening**

## Saturday, 15th October 2016

### 09.00 – 10.05

**Breakfast Symposia**
**Workshop (WS 4): Acting on DOHaD Concepts: Whose Responsibility?**

*Hosts: Mark Hanson and Ruth Mueller*

*Chair: Michael Penkler*

- Acting on DOHaD Concepts: Whose Responsibility? - Ruth Mueller (Munich, Germany) & Mark Hanson (Southampton, UK)

- Lecture Hall VI -

**Workshop (WS 5): Fetal and Infant Growth Standards: International Practice and Applicability**

*Hosts: Joaquin Esciribano & Stefanie Kouwenhoven*

- Curve Matching: New Technologies for Personalized Predictors of Growth in Children – Stef van Buuren (Amsterdam, The Netherlands)
- Very preterm or very-low-birth-weight: what's in the name? – Martijn Finken (Amsterdam, The Netherlands)

- Lecture Hall V -

**Workshop (WS 6): Dynahealth Meets Early Nutrition**

*Hosts: Sylvain Sebert & Lise Geisler*

- Introduction to the Challenge – Sylvain Sebert (Oulu, Finland)
- Discovery in Large Scale Consortia – Janine Felix (Rotterdam, The Netherlands)
- Nutritional Interventions During Pregnancy to Improve Metabolic Health in Mother and Offspring – Ricardo Rueda (Granada, Spain)
- Life Course Modelling Methods and Challenges – Estelle Lowry (Oulu, Finland)

- Lecture Hall IV -

### 10.10 – 11.45

**A.6 Parallel Session**

*The Future of Early Life Research*

*Hosts/Chairs: Berthold Koletzko*

- Finding Molecular Trackers of Early Life Environment in High-Dimensional Data – Joanna Holbrook (Singapore)
- The Application of Lipid Profiling to Understand Dietary Fat Metabolism in Breast-Fed Infants – A. Koulman (Cambridge, UK)
- Genetics and Epigenetics in DOHaD – Future Perspectives - Richard Saffery (Melbourne, Australia)
- Women’s Use and Preferences for Online Nutritional Resources in Pregnancy – R.A.K. Kennedy (Dublin, Ireland)
- Maximising the Impact of DOHaD Research - Mark Hanson (London, UK)

**B.6 Parallel Session**

*Obesity Prevention and Intervention in Infants and Young Children*

*Hosts/Chairs: Ricardo Closa & Annick Xhonneux*

- Early Obesity Prevention – the Role of Life Style. Experience from Toybox and Other Intervention Trials - Zbigniew Kulaga (Warsaw, Poland)
- Cord Blood Adiponectin as a Predictor for Childhood Obesity at 5 Years of Age – D. Meyer (Munich, Germany)
- Food Choices, Lifestyles and the Prevention of Overweight and Obesity in Children: Evidence from the IDEFICS Cohort and the I.Family Study - Wolfgang Ahrens (Bremen, Germany)
- ROLO Kids Step Test: A Simple Method of Estimating Cardiovascular Fitness and Adiposity in 5 Year Old Children – A. Geraghty (Dublin, Ireland)
- Determining Factors and Critical Periods in the Formation of Eating Habits: Results from the HabEat project - Sylvie Issanchou (Paris, France)

**C.6 Parallel Session**

*Personalised Nutrition and Counselling*

*Hosts/Chairs: Astrid Rauh-Pfeiffer & Rosalie Grivell*

- Personalised Nutrition – What Does It All Mean? - Rosalie Grivell (Adelaide, Australia)
- Evaluation of Pregnant Diet Quality on Social Media Project: The Use of the Healthy Eating Index for Brazilian Pregnancy - V. Barros K. (Sao Paulo, Brazil)
- Framing Personalized Nutrition and the Food4me Experience - Hannelore Daniel (Munich, Germany)
- Associations of Maternal B Vitamins during Pregnancy with Infant Neurocognitive Outcomes at 24 Months of Age – M. Chong (Singapore)

### 11.45 – 12.05

**Coffee and Tea Break**

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**Saturday, 15th October 2016 (continued)**
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| 12.05 – 12.50 | Lecture Hall VI: live  
Lecture Halls IV + V: live stream  
**Plenary Session IV:** Chair: Berthold Koletzko  
| 12.50 – 13.30 | Lecture Hall VI: live  
Lecture Halls IV + V: live stream  
**Closing Session:** Chair: Berthold Koletzko  
Early Life Nutrition (WHO Europe Perspective & Public Health Impact) – Martin Weber (WHO)  
Farewell Note – Berthold Koletzko |
| 13.30 – 14.00 | Farewell Snack |