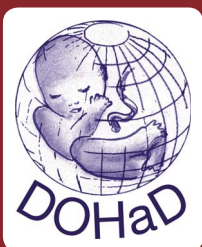
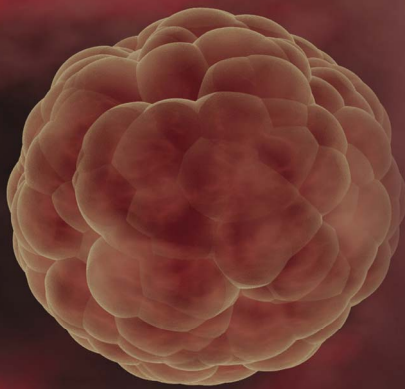


# JOURNAL OF **DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE**



**9th World Congress on Developmental  
Origins of Health and Disease**

**8-11 November 2015, Cape Town, South Africa**

**Guest Editors: Shane Norris and Lisa Micklesfield**

Online manuscript submission  
<http://mc.manuscriptcentral.com/dohad>

**CAMBRIDGE  
UNIVERSITY PRESS**

# Journal of Developmental Origins of Health and Disease

Published in association with the International Society for Developmental Origins of Health and Disease

## EDITOR

Dr Michael G Ross  
Harbor-UCLA (University of California, Los Angeles) Medical Center  
1000 W. Carson Street, Torrance, California 90502, USA  
Email: [dohadeditor@cambridge.org](mailto:dohadeditor@cambridge.org)

## EDITORIAL ASSISTANT

Mrs Valerie Dennis  
Email: [doheditorial@cambridge.org](mailto:doheditorial@cambridge.org)

## EDITORIAL ADVISORY BOARD

**Dr John Challis**  
University of Toronto, Canada  
**Dr Cyrus Cooper**  
University of Southampton, UK  
**Dr Peter Gluckman**  
University of Auckland, New Zealand  
**Dr Mark Hanson**  
University of Southampton, UK  
**Dr Alan Jackson**  
University of Southampton, UK  
**Dr Lucilla Poston**  
King's College London, UK

## ASSOCIATE EDITORS

**Dr Linda Adair**  
University of North Carolina at Chapel Hill, USA  
**Dr Mina Desai**  
Harbor-UCLA (University of California, Los Angeles) Medical Center, USA  
**Dr Caroline Fall**  
University of Southampton, United Kingdom  
**Dr Mark Gilthorpe**  
University of Leeds, UK  
**Professor Dino Giussani**  
University of Cambridge, UK  
**Professor Jane Harding**  
The University of Auckland, New Zealand  
**Dr Bernardo Lessa Horta**  
Universidade Federal de Pelotas, Brazil  
**Professor Janna Morrison**  
University of South Australia, Australia  
**Dr Tim Regnault**  
Western University, Ontario, Canada  
**Dr Deborah Sloboda**  
McMaster University, Canada  
**Dr Michael Symonds**  
Queen's Medical Centre, University Hospital Nottingham, United Kingdom

## THEMED ISSUE AND SUPPLEMENTS EDITOR

**Professor Janna Morrison**, University of South Australia, Australia

## EDITORIAL BOARD

**Dr Cindy Anderson**, The Ohio State University College of Nursing, USA  
**Dr Mary Barker**, MRC Epidemiology Resource Centre, University of Southampton, UK  
**Dr Carlos Blanco**, Children Research Centre, Our Lady's Children's Hospital, Dublin, Ireland  
**Dr Frank Bloomfield**, Liggins Institute, University of Auckland, New Zealand  
**Dr Stephen Buka**, Brown University, Providence, USA  
**Dr Felino Cagampang**, University of Southampton Faculty of Medicine, UK  
**Dr Noel Cameron**, Human Sciences, Loughborough University, UK  
**Dr Mei-Yen Chan**, Newcastle University, Singapore Campus, Singapore  
**Dr Pau-Cheung Chen**, College of Public Health, National Taiwan University, Taipei, Taiwan  
**Dr Jane Cleal**, Institute of Developmental Sciences, University of Southampton, UK  
**Professor Michael Davies**, University of Adelaide, Australia  
**Dr Elaine Dennison**, MRC Epidemiology Resource Centre, University of Southampton, UK  
**Dr Tony Duan**, Shanghai 1st Maternity and Infant Hospital of Tongji University, China

**Dr Caleb Finch**, University of Southern California, Los Angeles, USA  
**Dr Elwyn Firth**, Institute of Veterinary, Animal & Biomedical Sciences, Massey University, New Zealand  
**Dr Tom Fleming**, School of Biological Sciences, University of Southampton, UK  
**Dr Matt Gillman**, Harvard Pilgrim Health Care, Harvard Medical School, Boston, USA  
**Dr David Gozal**, University of Chicago, USA  
**Dr Gilman Grave**, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Maryland, USA  
**Dr Jerry Heindel**, National Institute of Environmental Health Sciences, North Carolina, USA  
**Dr Hazel Inskip**, MRC Epidemiology Research Centre, University of Southampton, UK  
**Dr Hiroaki Itoh**, Hamamatsu University School of Medicine, Shizuoka, Japan  
**Dr Thomas Jansson**, University of Cincinnati Medical Center, USA  
**Dr Henry Kahn**, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention & Health Promotion, Atlanta, USA  
**Dr Omid Khorram**, Geffen School of Medicine at UCLA, LABioMed at Harbor-UCLA Medical Center, USA  
**Dr Ilona Koupil**, Centre for Health Equity Studies, Karolinska Institute, Stockholm University, Sweden  
**Dr Anita Kozyrskyj**, University of Alberta, Edmonton, Canada  
**Dr Robert Lane**, University of Utah, Salt Lake City, USA  
**Dr David Leon**, London School of Hygiene and Tropical Medicine, UK  
**Dr Karen Lillycrop**, School of Biological Sciences, University of Southampton, UK  
**Dr Francisco Mardones**, Pontificia Universidad Catolica de Chile, Santiago, Chile  
**Professor Paulo Mathias**, Universidade Estadual de Maringa, Brazil  
**Dr Mary C. Mceniry**, Sociology-CDE/CDHA, University of Wisconsin, USA  
**Dr Sophie Moore**, MRC Laboratories, Banjul, Gambia  
**Dr Leslie Myatt**, University of Texas Health Center at San Antonio, USA  
**Dr Joe Nadeau**, Pacific Northwest Diabetes Research Institute, Washington, USA  
**Professor Pablo Nepomnaschy**, Simon Fraser University, Canada  
**Dr John Newnham**, University of Western Australia, Perth, Australia  
**Dr Shane Norris**, University of Witwatersrand, Johannesburg, South Africa  
**Dr Vasantha Padmanabhan**, University of Michigan, Ann Arbor, USA  
**Dr Yuan-Xiang Pan**, University of Illinois at Urbana, USA  
**Dr Anna Petryk**, University of Minnesota, USA  
**Dr Torsten Posch**, University Medical Center Groningen, Netherlands  
**Dr Cristina Rabadan-Diehl**, Division of Cardiovascular Science, National Heart, Lung and Blood Institute, Bethesda, USA  
**Dr Rebecca Reynolds**, University of Edinburgh, UK  
**Dr Alina Rodriguez**, Mid Sweden University, Sweden and Imperial College London, UK  
**Dr John Rogers**, Developmental Biology Branch, United States Environmental Protection Agency, North Carolina, USA  
**Dr Carolyn Salafia**, Institute for Basic Research in Developmental Disabilities, New York State Department of Health, Larchmont, USA  
**Professor Patricia Silveira**, Universidade Federal do Rio Grande do Sul, Brazil  
**Dr Michael Skilton**, The University of Sydney, Australia  
**Dr Aryeh Stein**, Hubert Department of Global Health, Emory University, Atlanta, USA  
**Dr Ezra Susser**, Department of Epidemiology, Columbia University, New York, USA  
**Dr Christiane Theda**, The University of Melbourne, Australia  
**Dr Christopher Torrens**, University of Southampton, UK  
**Dr Mark Vickers**, Liggins Institute, University of Auckland, New Zealand  
**Professor Didier Vieau**, Universite des Sciences et Technologies de Lille, France  
**Dr Darren Dahly**, University College Cork, Ireland



9th World Congress on Developmental Origins of Health and Disease, 8-11 November 2015, Cape Town, South Africa

*Supported by:*



# Table of Contents

5204	<p><b>A global perspective on preventing noncommunicable diseases, childhood overweight and obesity and the relevance to DOHaD</b>  <i>Timothy Armstrong</i></p>	S1
4900	<p><b>LifeLab: Teenagers' self-perceptions of health</b>  <i>Hannah Davey, Holly Aiston, Lisa Bagust, Donna Lovelock, Andri Christodoulou, Marcus Grace, Janice Griffiths, Keith Godfrey, Mark Hanson, Hazel Inskip, Kathryn Woods-Townsend</i></p>	S1
5411	<p><b>Implementing a pre-pregnancy lifestyle intervention to reduce the risk of diabetes in young adults: challenges and key-learnings from Malaysia</b>  <i>Jutta KH Skau, Awatef Binti Amer Nordin, Julius Cheah Chee Ho, Mohamed Paid Yusof Yusof, Tahir Aris, Ramli Zainal, Roslinah Ali, Regien Biesma, Priya Matzen, Jens Aagaard-Hansen, Mark Hanson, Shane A Norris</i></p>	S1
4399	<p><b>Optimal periconceptional folate status and human embryonic cerebellar growth trajectories</b>  <i>Irene Koning, Irene Groenenberg, Anniek Gotink, Sten Willemsen, Manon Gijtenbeek, Jeroen Dudink, Eric Steegers, Regine Steegers-Theunissen</i></p>	S2
5350	<p><b>Exposure to Maternal Obesity: Predictive-Adaptive Responses in Newborn White (WAT) and Brown (BAT) Adipose Tissue</b>  <i>Michael G. Ross, Mina Desai, Guang Han, Marie H Beall, Robert H Lane</i></p>	S2
5029	<p><b>Differential Methylation/Hydroxymethylation of Genes in the Placenta with Maternal Adiposity: Role in Placental Function and Programming of Obesity</b>  <i>Leslie Myatt, Jianhua Ruan, Lu Liu, Kohzoh Mitsuya</i></p>	S3
4917	<p><b>Sexually dimorphic influence of first trimester phthalate and phenol exposure on gene regulation in human placenta</b>  <i>Alexandra M. Binder, Jessica LaRocca</i></p>	S3
5353	<p><b>Paternal obesity: fetal and placental outcomes</b>  <i>Tatiane Ribeiro, Jessica Wallace, Rosaria Rita S Sassi, Wajiba Gohir, Kaitlyn Chan, Paulo Cezar, de Freitas Mathias, Deborah M Sloboda</i></p>	S4
5451	<p><b>Maternal obesity alters placental gene expression in a sex-specific manner</b>  <i>Wajiba Gohir, Kaitlyn Chan, Jessica Wallace, Deborah Sloboda</i></p>	S4
4633	<p><b>Low maternal B12 associates with higher leptin in maternal adipose tissue, placental tissue and cord blood</b>  <i>Antonysunil Adaikalakoteswari, Manu Vatish, Ilona Goljan, Philip McTernan, Gyanendra Tripathi, Ponnusamy Saravanan</i></p>	S4
4454	<p><b>Cord blood levels of Placental Growth Factor; a novel biomarker for the identification of fetal growth restriction</b>  <i>Zoe Broere-Brown, Sarah Schalekamp-Timmermans, Vincent WV Jaddoe, Eric AP Steegers</i></p>	S5
4927	<p><b>Exploring the Developmental Overnutrition hypothesis using Mendelian randomization in three birth cohorts</b>  <i>Rebecca Richmond, Nic Timpson, Janine Felix, Romy Gaillard, Camilla Schmidt Morgen, Tom Palmer, Vanessa Didelez, Thorkild Sorensen, Ellen Aagaard Nohr, Vincent Jaddoe, George Davey Smith, Debbie Lawlor</i></p>	S5
4921	<p><b>Does genetic variation contribute to the architecture of gestational weight gain?</b>  <i>Nicole N Warrington, David M Evans, Debbie A Lawlor, Early Growth Genetics Consortium</i></p>	S6
4506	<p><b>Does maternal antenatal distress predict placental gene expression of 11<math>\beta</math>-HSD2, MAO-A, NR3C1 and SLC6A4?</b>  <i>Vivette Glover, Paul Ramchandani</i></p>	S6
4622	<p><b>Impact of paternal cholestasis on the sperm epigenome</b>  <i>Vanessa Pataia, Georgia Papacleovoulou, Lucilla Poston, Catherine Williamson</i></p>	S6



4431	<b>The effect of dietary fat on age related changes on the liver DNA methylome across generations</b> <i>Samuel Hoile, Mark Hanson, Karen Lillycrop, Graham Burdge, Leonie Grenfell</i>	S7
4395	<b>Common genetic variants and kidney outcomes in children and adults</b> <i>Kozeta Miliku, Suzanne Vogezang, Oscar Franco, Albert Hofman, Vincent Jaddoe, Janine Felix</i>	S7
4628	<b>Prenatal nutritional supplementation effects on fetal growth and birth outcomes in rural Gambia: the Early Nutrition and Immune Development trial</b> <i>William Johnson, Anthony JC Fulford, Momodou K Darboe, Andrew M Prentice, Sophie E Moore</i>	S7
4600	<b>Early-Onset Overweight after Maternal Obesity Increases Insulin, Intrinsic Renal Leptin Signaling and Metabolic Programming of the Kidney</b> <i>Miguel Angel Alejandre Alcazar, Katharina Dinger, Philipp Kasper, Christina Vohlen, Eva Hucklenbruch-Rother, Ruth Janoschek, Kerstin Amann, Jörg Dötsch</i>	S8
4651	<b>Counter-regulatory cytokine expression and preterm birth: a case-control study nested in a cohort study (BRISA Birth Cohort, Brazil)</b> <i>Thais Pereira, Erika Thomaz, Flavia Nascimento, Ana Paula Santos, Rosangela Fernandes Lucena Batista, Viviane Cunha Cardoso, Heloisa Bettiol, Ricardo Carvalho Cavalli, Marco Antonio Barbieri, Antonio Augusto Moura da Silva</i>	S8
4957	<b>Maternal Obesity negatively impacts on fetal kidney development, maternal health and birth outcomes in an Indigenous Australian cohort</b> <i>Kirsty Pringle, Loretta Weatherall, Roger Smith, Eugenie Lumbers</i>	S9
4705	<b>Alcohol exposure during the periconceptional period programs renal dysfunction in aged female rats</b> <i>Emily S Dorey, Jacinta I Kalisch-Smith, Emelie M Gardebjer, Kristy A Weir, Mary E Wlodek, Karen M Mortiz</i>	S9
4948	<b>Using donor eggs eliminates the risk of congenital heart defects after IVF/ICSI</b> <i>Michael Davies, Alice Rumbold, Kristyn Willson, Lynne Giles, Vivienne Moore</i>	S9
4406	<b>Periconceptional maternal smoking reduces growth of the human embryonic head</b> <i>Irene Koning, Leonie Baken, Irene Groenenberg, Sophie Husen, Sten Willemsen, Jeroen Dudink, Eric Steegers, Regine Steegers-Theunissen</i>	S10
4473	<b>Prenatal markers of neonatal fat mass, a systematic review</b> <i>Jorine Roelants, Rogier de Jonge, Koen Joosten, Regine Steegers-Theunissen, Marijn Vermeulen</i>	S10
4525	<b>How to define fetal growth restriction? An observational study exploring clinical implications of misclassification</b> <i>Zoe Broere-Brown, Sarah Schalekamp-Timmermans, Vincent WV Jaddoe, Eric AP Steegers</i>	S10
4977	<b>What do we know about body composition in healthy infants? A review of the literature</b> <i>Darren Dahly</i>	S11
4658	<b>Intrauterine Growth and Early Childhood Development: Evidence from the Sao Paulo Western Region Cohort</b> <i>Alexandra Brentani, Sandra Grisi, Helena Brentani, Gunther Fink</i>	S11
4988	<b>Pregnancy and postpartum islet beta-cell function in African women attending the Antenatal Clinic in the Charlotte Maxeke Johannesburg Academic hospital</b> <i>Toman Marketa, Franco Guidozi, Nigel John Crowther</i>	S11
5020	<b>Role of prenatal factors and postnatal growth on insulin sensitivity and beta-cell function in Afro-Caribbean youth: Vulnerable Windows Cohort Study</b> <i>Lisa A. Chin-Harty, Tamika Y. Royal-Thomas, Debbie S. Thompson, Clive Osmond, Terrence E. Forrester, Michael S. Boyne</i>	S12
4733	<b>Human Fetal Kidney Volume in Pregnancies Complicated by Gestational Diabetes</b> <i>John Bertram, Stacey Hokke, Bethany Carr, Victor Puelles, Peter Coombs, Carolyn Allan, James Armitage, Andrew Edwards, Euan Wallace, Luise Cullen-McEwen</i>	S12
4653	<b>'Thin-fat' fetal phenotype at 20 weeks of life in GDM pregnancies - Novel evidence from an Indian Cohort</b> <i>Hema Venkataraman, Mohan Vishwanathan, Uma Ram, Suresh Seshadri, Anuradhai A, Vanitha Rajagopal</i>	S12
4983	<b>Fetal macrosomia and early childhood obesity- findings from the Growing Up in Ireland Cohort Study</b> <i>Regien Biesma, Mark Ward, Fiona Boland</i>	S13
4687	<b>Ethnic Differences in Fetal Growth Patterns in GDM: Novel Data from the UK</b> <i>Hema Venkataraman, Sam Craik, Elizabeth Midgley, Nithya Sukumar</i>	S13

4437	<b>Associations of maternal and paternal depression and anxiety with offspring anxiety disorder at age 18 years</b> <i>Vivette Glover, Rebecca Pearson, Jonathan Evans, Thomas O'Connor, Alan Stein, Susannah Murphy, Paul Ramchandani</i>	S13
4497	<b>Maternal dietary patterns and postpartum depression, a prospective study of 56,303 women in the Norwegian Mother and Child Cohort Study</b> <i>Elisabeth R. Hillesund, Helle Margrete Meltzer, Nina Cecilie Øverby, Elling Bere, Margaretha Haugen</i>	S14
4442	<b>Maternal Depressive Symptoms During Pregnancy and the Risk of Childhood Obesity: a 15 Year Prospective Birth Cohort Study</b> <i>De-Kun Li, Jeannette Ferber, Roxana Odouli</i>	S14
4499	<b>Maternal pre-pregnancy obesity and maternal depressive symptoms 6 months after delivery</b> <i>Marius Lahti, Soile Tuovinen, Anu-Katriina Pesonen, Kati Heinonen, Eero Kajantie, Pia M Villa, Esa Hämäläinen, Laivuori Hannele, Katri Räikkönen</i>	S14
4770	<b>Ante-partum and post-partum depression among women living in slums in Mumbai, India</b> <i>Meera Gandhi, Ella Marley-Zagar, Sirazul Sahariah, Harshad Sane, Sunita Borhade, Patsy Coakley, Sarah Kehoe, Ramesh Potdar, Caroline Fall</i>	S15
4964	<b>Antenatal Maternal Mental Health Predicts Preschoolers' Neuronal Firing during an Executive Functioning Task</b> <i>Anne Rifkin-Graboi, Hong Kuang Tan, Shaun Goh, Lit Wee Sim, Saw Seang Mei, Peter Gluckman, Kenneth Kwek, Chong Yap Seng, Michael Meaney, Birit Broekman, Helen Chen, Anqi Qiu</i>	S15
4815	<b>Effect of early nutrition on later cognition: human milk nutrients at 3 months of age predict declarative memory abilities at 2 and 3 years of age</b> <i>Carol Cheatham, Kelly Sheppard, Andrea Armer, Grace Millsap</i>	S15
4717	<b>Effects of iron and n-3 fatty acid supplementation, alone and in combination, on cognition and behavior in South African school children</b> <i>Jeannine Baumgartner, Linda Malan, Michael Zimmermann, Marius Smuts</i>	S16
4586	<b>Maternal cortisol concentrations during pregnancy and newborn amygdala volume</b> <i>Sonja Entringer, Jerod Rasmussen, John Gilmore, Martin Styner, Pathik Wadhwa</i>	S16
5043	<b>Markers of allostatic load associate with adverse pregnancy and offspring outcomes in rats</b> <i>Olson David, Ashlee Matkin, Erin Falkenberg, J. Keiko McCreary, Gerlinde A.S. Metz</i>	S16
4509	<b>Do maternal anxiety and mindfulness during pregnancy affect infant cognition and emotion? Results from a brain imaging study</b> <i>Marion van den Heuvel, Renee A. Otte, Franc Donkers, Marijke A.K.A. Braeken, István Winkler</i>	S17
4500	<b>Fatty fish intake during pregnancy and postpartum depression in the Norwegian Mother and Child Cohort Study</b> <i>Margaretha Haugen, Helle Margrete Meltzer, Helle Katrine Knutsen, Anne Lise Brantsæter</i>	S17
4702	<b>Overweight and Obesity: Life Course and Multigenerational Studies</b> <i>Ilona Koupil</i>	S17
4154	<b>Grandparents cardiovascular risk factor profiles are associated with grandchildren's anthropometric measures at age 5 and 9 years in the Lifeways Cross-Generation Cohort Study</b> <i>Rebecca Somerville, Karien Viljoen, Hala Khalil, John O'Brien, Ricardo Segurado, Celine Murrin, Cecily Kelleher</i>	S18
5351	<b>Maternal Obesity Programs Offspring Hyperphagia via Enhanced Appetite and Reduced Anorexigenic Neurons</b> <i>Michael G. Ross, Mina Desai, Guang, Han, Marie H Beall</i>	S18
4411	<b>Maternal trans fatty acid status in relation to birth outcomes in a multi-ethnic Asian population</b> <i>Ling-Wei Chen, Marjorelee Colega, Mya-Thway Tint, Izzuddin M. Aris, Philip C. Calder, Peter D. Gluckman, Keith M. Godfrey, Kenneth Kwek, Seang-Mei Saw, Yap-Seng Chong, Fabian Yap, Yung Seng Lee, Mary Foong-Fong Chong, Rob M. van Dam</i>	S19
4428	<b>Maternal Retinal Vasculature Is Indicative For Subsequent Fetal Growth And Birth Size At Birth</b> <i>Izzuddin Aris, Carol Cheung, Yap-Seng Chong, Tien-Yin Wong, Yung Seng Lee</i>	S19
4449	<b>BMI in early pregnancy is more important for fetal growth than metabolic factors in early pregnancy and longitudinal changes during pregnancy</b> <i>Marie Cecilie Paasche Roland, Camilla M Friis, Kristin Godang, Jens Bollerslev, Tore Henriksen</i>	S20

4490	<b>Association between maternal mid-gestation vitamin D and offspring's abdominal adiposity</b> <i>Mya-Thway Tint, Izzuddin M Aris, Marielle V Fortier, Seang Mei Saw, Kenneth Kwek, Keith M Godfrey, Peter D Gluckman, Fabian Yap, Yap-Seng Chong, Mary F Chong, Yung-Seng Lee</i>	S20
4523	<b>Influence of maternal gestational hypertensive disorders on microvasculature in school-age children. The Generation R Study</b> <i>Gizem Dilan Yesil, Janine F Felix, Irwin Reiss, Mohammad Kamran Ikram, Eric A.P. Steegers, Albert Hofman, Vincent W.V. Jaddoe, Romy Gaillard</i>	S21
4527	<b>Maternal polyunsaturated fatty acid levels during pregnancy and childhood adiposity</b> <i>Aleksandra Jelena Vidakovic, Olta Gishti, Trudy Voortman, Janine Felix, Michelle Williams, Albert Hofman, Hans Demmelmair, Berthold Koletzko, Henning Tiemeier, Vincent Jaddoe, Romy Gaillard</i>	S21
4530	<b>The relation between anemia in different trimesters and changes in the placental vascularization, Northeastern Tanzania</b> <i>Sofie Lykke Møller, Karsten</i>	S21
4528	<b>Dynamics of second trimester anaemia with foetal growth and birth outcome in a longitudinal study in Tanzania</b> <i>Daniel Minja, Mayke Oesterholt, Caroline Perbson, Hannah Elena Subrs, Stephanie Boström, Pamela Magistrado, Ib Bygbjerg, John Lusingu, Birgitte Bruun Nielsen, Thor Grundtvig Theander</i>	S22
4579	<b>Dissecting the relationship between depression and adiposity in young adult offspring: the Western Australian Pregnancy Cohort (Raine) Study</b> <i>Sunil Bhat, Lawrence Beilin, Monique Robinson, Sally Burrows</i>	S22
5144	<b>Characterising Public Understanding of DOHaD to Inform Communication Strategies</b> <i>Jacquie Bay, Robyn Dixon, Sarah Morgan, Clare Wall, Masahito Oyamada</i>	S23
4655	<b>First Trimester Prediction of GDM using maternal characteristics: Scope for improvement? Preliminary Results from the PRiDE study</b> <i>Hema Venkataraman, Kate Myler, Emma Marston, Nithya Sukumar</i>	S23
4672	<b>Maternal lipids and hormones concentration throughout pregnancy and birth weight: a prospective cohort</b> <i>Dayana Rodrigues Farias, Ana Beatriz Franco-Sena, Christian Henrique Dias-Silva, Thatiana de Jesus Pereira Pinto, Livia Costa de Oliveira, Gilberto Kac</i>	S23
4557	<b>Fetal liver blood flow in mid-gestation is prospectively associated with newborn adiposity</b> <i>Satoru Ikenoue, Feizal Waffarn, Masanao Ohashi, Kaeko Sumiyoshi, Chigusa Ikenoue, Jerod Rasmussen, Claudia Buss, Sonja Entringer, Pathik Wadhwa</i>	S24
4801	<b>Premature weaning impairs beta cell regeneration later in life</b> <i>Miri Stolovich-Rain, Tzuria Lax, Yuval Dor</i>	S24
4551	<b>Maternal flaxseed oil supplementation during lactation programs adipose tissue inflammation in male adults rats but not in female</b> <i>Mariana Figueiredo, Deysla Sabino Guarda, Patricia Lisboa</i>	S24
4596	<b>Short chain fatty acids in human milk influence infancy anthropometry outcomes</b> <i>Philippa Prentice, Jacques Vervoort, Marieke H Schoemaker, Eric AF VanTol, Carlo L Acerini, Ieuan A Hughes, Ken K Ong, David B Dunger</i>	S25
4630	<b>The effect of exclusive breastfeeding on growth in rural Gambian infants: Data from the ENID trial (ISRCTN49285450)</b> <i>Kamilla G Eriksen, William Johnson, Anthony J Fulford, Momodou K Darboe, Andrew M Prentice, Sophie E Moore</i>	S25
4677	<b>To what extent do secular trends toward obesogenic infant growth trajectories reflect changes in feeding practices in American Samoa?</b> <i>Nicola L Hawley, William Johnson, James R Bindon, Bethel T Muasau-Howard, Aileen Solaita, Stephen T McGarvey</i>	S25
4862	<b>Birth socio-economic status (SES) is more strongly associated with BMI/body fat than changing SES birth to 16 years in South African adolescents</b> <i>Paula Griffiths, Nyovani Madise, Linda Richter, Carren Ginsburg, Shane Norris</i>	S26
5409	<b>Early Life Growth and Blood Pressure across the Life-course in urban South Africa</b> <i>Juliana Kagura, Linda S Adair, R Munthali, Shane A Norris, John M Pettifor</i>	S26
4408	<b>Fetal growth restriction induces different cardiac phenotypes</b> <i>Merida Rodriguez-Lopez, Monica Cruz-Lemini, Brenda Valenzuela-Alcaraz, Laura Garcia, Bart Bijlens, Eduard Gratacos, Fatima Crispi</i>	S27

4415	<b>Effect of infant weight, length and adiposity gains during early childhood with blood pressure at 36-months</b> <i>Izzuddin Aris, Jonathan Bernard, Mya Thway Tint, Ling Wei Chen, Shu E Soh, Ailing The, Joanna Holbrook, Seang Mei Saw, Kenneth Kwek, Keith Godfrey, Peter Gluckman, Yap Seng Chong, Fabian Yap, Yung Seng Lee</i>	S27
4366	<b>The association of perinatal growth with energy intake and satiety response at 5-6 years of age; The ABCD study</b> <i>Arend van Deutekom, Mai Chinapaw, Tanja Vrijkotte, Reinoud Gemke</i>	S28
4925	<b>The association of infant growth with energy intake and satiety response at 5-6 years of age - The ABCD study</b> <i>Arend W. van Deutekom, Maj M.J. Chinapaw, Tanja G.M. Vrijkotte, Reinoud J.B.J. Gemke</i>	S28
4489	<b>Vascular dysfunction in offspring born from dams of advanced maternal age</b> <i>Christy-Lynn Cooke, Alison Care, Sandra Davidge</i>	S28
4544	<b>Sexual Dimorphism in Fetal Cardiac Growth Response to Intrauterine Growth Restriction (IUGR)</b> <i>Sribalashubini Muralimanoharan, Cun Li, Leslie Myatt, Peter W. Nathanielsz</i>	S29
4635	<b>Cesarean section as an independent risk factor for hypertension among young adults</b> <i>Maria Teresa Fernandes, Alexandre Ferraro, Viviane Cunha Cardoso, Marcelo Zubaran Goldani, Antonio Augusto Moura da Silva, Heloisa Bettioli, Marco Antonio Barbieri</i>	S29
4710	<b>The effect of prenatal hypoxia and a postnatal high-salt diet on microvascular structure and function</b> <i>Sarah Walton, Reetu Singh, Tamara Paravicini, Karen Moritz</i>	S29
4965	<b>Maternal early pregnancy lipid profile and offspring's lipids and glycaemic control at age 5-6 years: the ABCD-study</b> <i>Adriette Oostvogels, Noekie Van Lieshout, Maaike Gademan, Tanja Vrijkotte</i>	S30
4752	<b>Association between in utero HIV and ART exposure and assessment of vascular damage in infancy: a feasibility study</b> <i>Verena Schrier, Shane Norris, Moji Musa, Douglas Momborg, Joyce Browne, Cuno Uiterwaal, Nikmah Idris, Michael Cheung, Rick Grobbee, David Burgner, Kerstin Klipstein-Grobusch</i>	S30
5013	<b>Aortic, coronary and carotid dimensions, intima media thickness and stiffness in 6-year-old children born extremely preterm</b> <i>Lilly-Ann Mohlbert, Olof Broberg, Monica Hellström, Cecilia Pegelow Halvorsen, Jenny Hallberg, Gunnar Sjöberg, Anna-Karin Edstedt Bonamy, Vineta Fellman, Magnus Domellöf, Mikael Norman</i>	S31
4452	<b>Trajectories of early development and adult intelligence</b> <i>Erik Lykke Mortensen</i>	S31
5414	<b>Exclusive breastfeeding, HIV exposure, and development at primary school-age in a large, rural, cohort in South Africa</b> <i>Ruth Bland</i>	S31
5410	<b>Long-term Effects of Acute Malnutrition on Growth, Body Composition and Function</b> <i>Natasha Lelijveld, Andrew Seal, Jonathan Wells, Robert Heyderman, Moffat Nyirenda, Marko Kerac</i>	S32
4969	<b>Perinatal methylation of the serotonin transporter SLC6A4 is a predictor of childhood adiposity</b> <i>Karen Lillycrop, Emma Garratt, Philip Titcombe, Shelia Barton, Clara Cheong, Rebecca Clarke-Harris, Paula Costello, Robert Murray, Al Ling The, Neerja Karnani, Joanna Holbrook, Nicholas Harvey, James Hopkins, Caroline Childs, Carolina Para Chavez, Philip Calder, Graham Burdge, Cyrus Cooper, Hazel Inskip, Mark Hanson, Peter Gluckman</i>	S32
4939	<b>Maternal dietary supplementation with canola oil during lactation delays the loss of uncoupling protein 1 in the offspring's adipose tissue</b> <i>Rachel Woods, Mark Birtwistle, Graeme Davies, Viv Perry, Helen Budge, Frank Wiens, Bernd Stahl, Michael Symonds</i>	S32
4958	<b>Growth trajectories in early childhood, their relationship with antenatal and postnatal factors, and development of obesity by age 9 years</b> <i>Lynne Giles, Melissa Whitrow, Michael Davies, Chris Davies, Alice Rumbold, Vivienne Moore</i>	S33
4955	<b>Association between linear growth and fat and lean tissue gain during childhood and cardiometabolic outcomes in Indian adolescents</b> <i>Ghattu Krishnaveni, Sargoor Veena, A Saroja, KN Kiran, Clive Osmond, Caroline Fall</i>	S33
4952	<b>Stunting at 18 years is predicted by femur length in utero: Pune Maternal Nutrition Study (PMNS)</b> <i>Suyog Joshi, Manoj Chinchwadkar, Arun Kinare, Himangi Lubree, Kalyanaraman Kumaran, Sharad Gore, Caroline HD Fall, Chittaranjan Yajnik</i>	S34



4949	<b>Components of Height and the Intergenerational Change in Height as Predictors of Body Composition and Cardiovascular Risk in Young Indian Adults</b> <i>Kalyanaraman Kumaran, Suyog Joshi, Clive Osmond, Charudatta Joglekar, Himangi Lubree, Dattatray Bhat, Arun Kinare, Sheila Bhawe, Ashish Bavdekar, Anand Pandit, Chittaranjan Yajnik, Caroline Fall</i>	S34
4937	<b>Comparison of mother - child versus father - child associations for cardiometabolic risk -New Delhi Birth Cohort, India</b> <i>Poornima Prabhakaran, Dimple Kondal, Shikha Sinha, Bhaskar Singh, K.D. Gupta, H.P.S. Sachdev, Nikhil Tandon, Caroline Fall, Santosh Bhargava</i>	S34
4712	<b>Periconceptional alcohol exposure contributes to increased adiposity in male offspring</b> <i>Karen Moritz, Emelie Gardebjer, Mary Wlodek, Marie Pantaleon, Leigh Ward</i>	S35
4654	<b>Maternal Docosahexaenoic Acid (DHA) Supplementation and Body Composition at Age 5 Years</b> <i>Susan Carlson Carlson, Elizabeth Kerling, Jocelynn Thodosoff, Brandon Hidaka, Holly Hull, John Colombo</i>	S35
4364	<b>The Association of Birth weight and Infant growth with Energy Balance-Related Behavior. A Systematic Review and Best-evidence Synthesis of Human Data</b> <i>Arend van Deutekom, Reinoud Gemke, Ilse Jansma, Tanja Vrijkotte, Mai Chinapaw</i>	S35
5025	<b>Low B-vitamin status during pregnancy is associated with greater offspring adiposity in childhood</b> <i>Caroline Childs, Philip Titcombe, Sarah Crozier, Sheila Barton, Nick Harvey, Cyrus Cooper, Hazel Inskip, Keith Godfrey</i>	S36
4867	<b>A DRD4 Gene by Maternal Sensitivity Interaction Predicts Risk for Overweight or Obesity in Two Independent Cohorts of Pre-School Children</b> <i>Robert Levitan, Pauline Jansen, Michael Meaney, Henning Tiemeier, Patricia Silveira, James L. Kennedy, Leslie Atkinson, Alison Fleming, Marla Sokolowski, Helene Gaudreau, Meir Steiner, Laurette Dubé, Jill Hamilton, Ellen Moss, Ashley Wazana</i>	S36
4882	<b>The lipid class cross-talk during dietary fat metabolism in breast-fed infants</b> <i>Albert Koulman, Samyia Asbraf, Georgia Billing, Animesh Acharjee, Philippa Prentice, Gail Goldberg</i>	S37
4887	<b>Duration of sleep at 3 years of age is associated with lean and fat mass at 4 years of age: the Southampton Women's Survey</b> <i>Janis Baird, Catherine Hill, Nicholas Harvey, Sian Robinson, Keith Godfrey, Cyrus Cooper</i>	S37
4979	<b>Ethnic differences in adolescent male skeletal growth persist after adjustment for maturational timing</b> <i>Simon Schoenbuchner, Kate Ward, Ann Prentice, Shane Norris, John Pettifor</i>	S37
4407	<b>Benzyl Butyl Phthalate (BBP)-foe or friend? An Epigenetic View</b> <i>Mahua Choudhury, Sunitha Nukala Meruvu, Jian Zhang, Ravi Sonkar</i>	S38
4534	<b>NIH efforts to advance research focused on early life factors and cancer development</b> <i>Somdat Mahabir</i>	S38
4394	<b>First trimester maternal protein intake and childhood kidney outcomes. The Generation R Study</b> <i>Kozeta Miliku, Trudy Voortman, Edith H. van den Hooven, Albert Hofman, Oscar Franco, Vincent Jaddoe</i>	S38
4341	<b>Maternal nutrient intake during pregnancy and asthma risk in offspring over a 10 year period</b> <i>Karien Viljoen, Ricardo Segurado, Celine Murrin, John O'Brien, Cecily Kelleher</i>	S39
4412	<b>Maternal plasma PUFA status during pregnancy and trajectory of postnatal growth in children from the GUSTO cohort</b> <i>Jonathan Y. Bernard, Izzuddin M. Aris, Mya Thway Tint, Ling Wei Chen, Fabian Yap, Peter D. Gluckman, Philip C. Calder, Keith M. Godfrey, Yap-Seng Chong, Mary F. F. Chong, Yung-Seng Lee</i>	S39
4588	<b>Does fish oil supplementation in late pregnancy prevent offspring asthma? Experience from a Danish randomized controlled trial with 25 years of follow-up</b> <i>Susanne Hansen, Marin Strøm, Ekaterina Maslova, Ronald Dahl, Hans Jürgen Hoffmann, Bodil Hammer Bech, Dorte Rytter, Charlotta Granström, Sjurdur Frodi Olsen</i>	S39
5415	<b>Growth in 7-11 year old HIV-exposed and unexposed children in rural South Africa</b> <i>Brian Houle</i>	S40
4819	<b>Effect of Preterm birth and intrauterine life on adulthood lung function: A clinical follow-up of births (1985-89) in Finland</b> <i>Pieta K. Näsänen-Gilmore, Marika Sipola-Leppänen, Marjaana Tikanmäki, Satu Miettola, Hanna-Maria Matinelli, Suvi Alenius, Johan G Eriksson, Marjo-Riitta Järvelin, Marja Väärasmäki, Petteri Hovi, Eero Kajantie</i>	S40

4865	<b>Cardiometabolic and Pulmonary Outcomes among Children Exposed to the World Trade Center</b> <i>Leonardo Trasande, Elaine Urbina, Kenneth Berger, Roberta Goldring, Mikhail Kazachkov, Bret Rudy, Michael Marmor, Yongzhao Shao, Nomi Levy-Carrick, Robert Giusti, Kun Wang, Claude Chemtob</i>	S41
4723	<b>Mother's weight gain in pregnancy is related to daughters being overweight 40 years later</b> <i>Lauren C. Houghton, Wiestke A. Ester, Lambert H. Lumey, Karin B. Michels, Ying Wei, Barbara A. Cohn, Ezra Susser, Mary Beth Terry</i>	S41
4847	<b>Does Fetal Growth Restriction Cause Later Obesity? Pitfalls in Analyzing Mediators as Confounders</b> <i>Michael Kramer, Richard Martin, Emily Oken, Xun Zhang, Robert Platt</i>	S41
4721	<b>Inappropriate adjustment for mediators in analyses exploring the relationship between birth weight and blood pressure in later life: A systematic review and meta-analysis</b> <i>George TH Ellison, Rachel Huxley, Mark S Gilthorpe, Aminu Umar, Mark S Gilthorpe</i>	S42
5404	<b>Best Buys in the first 1000 Days for South Africa</b> <i>Karen Hofman</i>	S42
5408	<b>Returns to early life interventions: Are they still high when other things are not equal?</b> <i>Chris Chris Desmond</i>	S42
5403	<b>Lifecourse evolution of diabetes related phenotypes in Indians: Pune Studies</b> <i>Chittaranjan Yajnik</i>	S43
4416	<b>Short stature in black South African adults and cardiometabolic risk: evidence from adults of Sotho descent</b> <i>Salome Kruger, Corinna Walsh, Shane Norris</i>	S43
4966	<b>Maternal caffeine intake during pregnancy, early growth and body fat distribution at school-age. The Generation R Study</b> <i>Ellis Voerman, Vincent Jaddoe, Albert Hofman, Oscar Franco, Romy Gaillard</i>	S43
4393	<b>Effect of postnatal nutrition on cardiovascular remodeling induced by fetal growth restriction</b> <i>Merida Rodriguez-Lopez, Lyda Osorio, Ruthy Acosta, Monica Cruz-Lemini, Josep Figueras, Bart Bijmans, Eduard Gratacós, Fátima Crispí</i>	S44
4369	<b>Sex differences in the association between foetal growth and child attention at age four: specific vulnerability of girls</b> <i>Elizabeth Murray, Alicia Matijasevich, Iná S. Santos, Aluísio J.D. Barros, Luciana Anselmi, Fernando C. Barros, Alan Stein</i>	S44
4477	<b>Maternal Mid-Pregnancy Trans Fatty Acids and Pregnancy Outcomes</b> <i>Tiemeier H., Steegers-Theunissen R.P.M.</i>	S45
5105	<b>Large fetuses of obese woman show higher plasma levels of adiponectin, express adiponectin receptor 1 and show an inactive enos in human umbilical artery endothelial cells</b> <i>Estefanía Muñoz, B Krause, R Uauy, P Casanello</i>	S45
4674	<b>Leisure-time physical activity in young adults born preterm - The ESTER Study</b> <i>Marjaana Tikanmäki, Hanna-Maria Matinolli, Nina Kaseva, Tuija Tammelin, Marika Sipola-Leppänen, Johan G Eriksson, Marjo-Riitta Järvelin, Marja Väärämäki, Eero Kajantie</i>	S45
4815	<b>Effect of early nutrition on later cognition: human milk nutrients at 3 months of age predict declarative memory abilities at 2 and 3 years of age</b> <i>Carol Cheatham, Kelly Sheppard, Andrea Armer, Grace Millsap</i>	S46
4890	<b>Intergenerational change in anthropometry of children and adolescents in New Delhi Birth Cohort, India</b> <i>Sikha Sinha, Abha Aggarwal, Clive Osmond, Caroline HD Fall, Santosh K Bhargava, Harshpal Singh Sachdev</i>	S46
4767	<b>Longitudinal associations between affective problems and eating disturbances in South African adolescents</b> <i>Celia Hsiao, Shane Norris, Linda Richter</i>	S47
4724	<b>Maternal pregnancy factors and menarche in girls with a family history of breast cancer: The Legacy Girls Study</b> <i>Mary Beth Terry, Lauren C. Houghton, Mary Daly, Sandra Buys Buys, Angela Bradbury, Irene Andrusis, Ester John</i>	S47
4951	<b>Does change in components of childhood height influence cardiovascular risk and cognitive function in Indian adolescents?</b> <i>Kalyanaraman Kumaran, Ghattu Krishnaveni, Sargoor Veena, KN Kiran, R Somashekara, A Saroja, Clive Osmond, Caroline Fall</i>	S47

4959	<b>Birth weight, postnatal weight gain and cortisol responses to stress in Indian adolescents</b> <i>Ghattu Krishnaveni, Alexander Jones, Sargoor Veena, R Somashekara, Kalyanaraman Kumaran, Clive Osmond, Caroline Fall</i>	S48
4972	<b>The association of childhood growth trajectories with left ventricular mass and left atrial size in adolescence</b> <i>Laura Howe, Nishi Chaturvedi, Debbie Lawlor, Abigail Fraser, Diana Ferreira, Andy Ness, George Davey Smith, Kate Tilling, Alun Hughes</i>	S48
4429	<b>Prenatal exposure to maternal anxiety is associated with DNA methylation signatures in adolescence</b> <i>MJ Essex, JM Armstrong, WT Boyce, MS Kobor</i>	S48
4989	<b>Early-life adversity and healthy ageing</b> <i>Emma Anderson, Abigail Fraser, Laura Howe</i>	S49
4722	<b>The health in later life of Channel Islanders exposed to the 1940-45 German occupation and siege</b> <i>George TH Ellison</i>	S49
4703	<b>Early life determinants of mortality in a cohort of 12,564 men and women born in Uppsala 1915-1929</b> <i>Ilona Koupil, Sol Juarez, Anna Goodman, Bianca De Stavola</i>	S49
4401	<b>Gender differences of age-related morbidity and mortality: on the way to ontopathogenic model</b> <i>Viktor Goudochnikov</i>	S50
4430	<b>Increased dietary fat across generations leads to loss of metabolic homeostasis with ageing and an aged transcriptome in young adults</b> <i>Samuel Hoile, Leonie Grenfell, Mark Hanson, Karen Lillycrop, Graham Burdge</i>	S50
4785	<b>Understanding the inter-connection between body image, socio-demography and the development of obesity across lifespan in South Africa: SANHANES-1</b> <i>Zandile Mchiza</i>	S50
4532	<b>The UPBEAT trial. A Complex Intervention of Diet and Physical Activity in 1555 Obese Pregnant Women</b> <i>Lucilla Poston, Helen Croker, Keith Godfrey, Angela Flynn, Louise Hayes, Scott M Nelson, Eugene Oteng-Ntim, Nashita Patel, Paul T Seed, Naveed Sattar, Annette L Briley, The UPBEAT Consortium</i>	S51
4445	<b>M-Health improves fertility and (pre)pregnancy lifestyle behaviors in couples</b> <i>Nicole Huijgen, Sten Willemsen, Joop Laven, Eric Steegers, Régine Steegers-Theunissen</i>	S51
4938	<b>Combatting the Transgenerational risk of Non-communicable diseases in Transitioning societies -from evidence to action with Case studies from India</b> <i>Poornima Prabhakaran, Prabhakaran Dorairaj</i>	S51
4464	<b>Effect of a prenatal lifestyle intervention on infant size up to 1 year of age: results of the Norwegian Fit for Delivery randomized controlled trial</b> <i>Nina Øverby, Tore Henriksen, Hilde Lohne-Seiler, Monica Torstveit, Elling Bere, Elisabet Hillesund, Ingvild Vistad</i>	S52
4631	<b>The Role of Food Security on Nutritional Status and health during Critical Periods of Growth and Development</b> <i>David Himmelgreen, David Turkon</i>	S52
4976	<b>A review of maternal, neonatal, infant and child health interventions within the first 1000 days of life: What can South Africa learn from other countries?</b> <i>Nazia Peer, Thesandree Padayachee, René English</i>	S52
4936	<b>Vascular and metabolic studies in children whose fathers had premature cardiovascular disease</b> <i>Alan Macken, Michael O'Neill, Catriona Ahern, Ann Breen, Ophelia Blake, Ailish Hannigan, Colin McMahon, Eleanor Molloy, Walter Cullen, Colum Dunne, Clodagh O'Gorman</i>	S53
4096	<b>Location and preventive measures for pressure ulcers in paediatric age</b> <i>Lurdes lomba, Rita Bessa, Silvia Santos</i>	S54
4113	<b>Health practices and microbiological evaluation associated with the handling of urethral and peripheral intravenous catheters</b> <i>Joao Manuel Garcia Graveto, Santos Daniela, Taborda Joana, Manuel Chaves, Anabela Oliveira, Nadia Osório, Precisosa Sousa</i>	S54
4115	<b>Impact of Peritoneal Dialysis on The Family Life of Children With Chronic Kidney Disease</b> <i>Lurdes lomba, Alexandra lameirinhas, Ana Margarida Silva, Juliana Brito</i>	S54
4396	<b>Using Telomere Length as Predictive Marker for Susceptibility and Resiliency to Poor Outcomes Following Pediatric Concussion</b> <i>Richelle Mychasiuk, Harleen Hebar, Irene Ma, Michael Esser</i>	S55

4398	<b>Escitalopram effectivity and tolerability in hemodialysis patients</b> <i>Pervin Erdem</i>	S55
4423	<b>A nationwide register study on maternal and foetal factors in bladder exstrophy in Sweden</b> <i>Ängla Mantel, Magdalena Fossum, Agneta Nordenskjöld</i>	S55
4498	<b>Management through Starving and distinguishing the cancer cells as strategy to augment the conventional chemo, immune and radiotherapy, surgery, and marrow transplantation</b> <i>Asenath Sigot Sigot, John Okoth Okoth, Bridget Musuke Musuke</i>	S56
4543	<b>Maternal risk factors and perinatal characteristics of Hirschsprung's disease</b> <i>Anna Svenningsson, Eva Hagel, Agneta Nordenskjöld, Tomas Wester</i>	S56
4608	<b>A secular trend for pubertal timing in Swedish men born 1946-1991 - the BEST cohort</b> <i>Maria Bygdell, Jenny Kindblom, Claes Ohlsson</i>	S56
4663	<b>Mode of delivery is associated with plasma adiponectin changes from late pregnancy to postpartum: a prospective cohort in Rio de Janeiro, Brazil</b> <i>Fernanda Rebelo, Claudio Struchiner, Gilberto Kac</i>	S56
4686	<b>The Literacy in Professional Nursing in Peripheral Intravenous Catheterization Procedures - An Integrative Review</b> <i>Graveto Joao Manuel, Oliveira Ana Catarina, Martins Ana Rita</i>	S57
4697	<b>Young obese pre-diabetic rats are resistance to wound healing</b> <i>Jean Besson, Luzmarina Hernandez, Claudinéia Franco, Rosiane Miranda, Carina Previante, Isabela Martins, Karina Morikawa, Débora Luz, Rodrigo Gomes, Graciette Matioli, Paulo Mathias</i>	S57
4824	<b>Prenatal exposure to maternal diabetes mellitus and risk of childhood mortality among children with birth defects in Texas, USA</b> <i>Wendy Nembhard, Shams Rahman, David Fixler, Mary Ethen, Alfred Mbah, Mark Canfield</i>	S58
4915	<b>Has Neonatal Resuscitation Program (NRP) made a difference on the Apgar score at 5 minutes (Apg5) in the last 30 years?</b> <i>Jagjit Singh Teji</i>	S58
4916	<b>Delivery Pattern of Multiple births in the last 30 years in the USA and its impact on DOHaD</b> <i>Jagjit Singh Teji</i>	S58
5018	<b>Population based nationwide study of hypospadias in Sweden, 1973 to 2009: incidence and risk factors</b> <i>Anna Skarin Nordenvall, Louise Frisé, Anna Nordenström, Paul Lichtenstein, Agneta Nordenskjöld</i>	S59
5334	<b>Early Developmental Considerations of Chronic Pelvic Pain</b> <i>John Jarrell</i>	S59
4354	<b>Childhood hypertension and family history of hypertension in primary school children in Port Harcourt, Nigeria</b> <i>Boma Okoh, Edward Alikor</i>	S59
4409	<b>Abdominal circumference and weight at birth are both associated with metabolic risk factors in early childhood</b> <i>Mette Tanvig, Christina Anne Vinter, Jan Stener Jørgensen, Sonja Wehberg, Per Glud Ovesen, Henrik Thybo Christesen, Dorte Møller Jensen</i>	S60
4427	<b>Long term effects of the undernutrition upon the hypothalamus-pituitary-adrenal and -gonadal axes in adolescent rats</b> <i>Júlio Cezar de Oliveira, Egberto Gaspar de Moura, Rosiane Aparecida Miranda, Luiz Felipe Barella, Audrei Pavanello, Ananda Malta, Claudinéia Conatoni da Silva Franco, Isabela Peixoto Martins, Rosana Torrezan, Paulo Cezar de Freitas Mathias, Patrícia Cristina Lisboa</i>	S60
4451	<b>Prenatal food and micronutrient supplementation and associations with metabolic status in the offspring at 4.5 years. The randomized MINIMat-trial in rural Bangladesh</b> <i>Eva-Charlotte Ekström, Rubhana Raqib, Shams El Arifeen, Samar Basu, Kerstin Brismar, Lars-Åke Persson</i>	S61
4501	<b>Maternal protein intake in pregnancy and offspring metabolic health at age 9-16 - results from a high-risk Danish cohort</b> <i>Susanne Hansen, Louise Groth Grunnet, Marin Strøm, Anne Abrendt Bjerregaard, Line Hjort, Camilla Møller Madsen, Anne Cathrine Baun Thuesen, Bodil Hammer Bech, Thorhallur Ingi Halldorsson, Charlotta Granström, Allan Vaag, Sjurður F Olsen</i>	S61



4517	<b>Hypertension induced by low protein nutrition during adolescence in rats depends on autonomic nervous system</b> <i>Laize Peron Tôfolo, Leticia Diniz Crepaldi, Ananda Malta, Tatiane Aparecida da Silva Ribeiro, Flavio Andrade Francisco, Edmara Baroni, Paulo Cezar de Freitas Mathias, Kesia Palma-Rigo</i>	S62
4574	<b>Is percentage body-fat at birth related to age-dependant cardiovascular dysfunction?</b> <i>Fiona Tout, Kyra Sim, Girvan Malcolm, Garry Cohen</i>	S62
4576	<b>Muscle fitness and the cardio-metabolic risk factors from childhood through to late adolescence: The Raine Study</b> <i>Lawrence Beilin, Beth Hands, Sally Burrows, Kay Cox, Trevor Mori</i>	S63
4670	<b>Maternal stress during pregnancy and anemia in the second year of an infant's life</b> <i>Antonio Augusto Moura da Silva, Rosangela Fernandes Lucena Batista, Vanda Maria Ferreira Simoes, Marcelo Zubaran Goldani, Viviane Cunha Cardoso, Heloisa Bettiol, Marco Antonio Barbieri</i>	S63
4892	<b>Maternal vomiting during early pregnancy and cardiovascular risk factors at school-age. The Generation R Study</b> <i>Sunayna Bahadoer, Vincent W.V. Jaddoe, Oscar H. Franco, Albert Hofman, Eric A.P. Steegers, Romy Gaillard</i>	S63
4909	<b>Maternal and paternal family history of diabetes and metabolic outcomes at age 5-6 years: results of the ABCD study</b> <i>Adriëtte Oostvogels, Tessa Roseboom, Karien Stronks, Tanja Vrijkotte</i>	S64
4943	<b>Delivery by Cesarean Section and Blood Pressure from Age 7 to 15 Years</b> <i>Teresa Attina, Jan Blustein, Jianmeng Liu, Trasande Leonardo</i>	S64
4961	<b>Early childhood growth patterns and airway resistance, fractional exhaled nitric oxide and asthma at school age - The Generation R Study</b> <i>Maribel Casas, Herman T. den Dekker, Claudia J. Kruitthof, Johan C. de Jongste, Martine Vrijheid, Vincent W.V. Jaddoe, Liesbeth Duijts</i>	S64
4974	<b>Relation of growth in early infancy with cardio-metabolic risk factors during childhood in term low birth weight Indian subjects</b> <i>Manpreet Kaur, Sikha Sinha, Geeta Trilok Kumar, Suzanne Filteau, Anura V Kurpad, Caroline HD Fall, Clive Osmond, Harshpal Singh Sachdev</i>	S65
4999	<b>Fetal and postnatal growth patterns related to cardiometabolic risk factors in preschool children</b> <i>Damaskini Valvi, David Martinez, Ferran Ballester, Jesus Ibarluzea, Adonina Tardon, Jordi Sunyer, Martine Vrijheid</i>	S65
5002	<b>Longitudinal growth during fetal life and infancy and cardiovascular outcomes at school-age. The Generation R Study</b> <i>Liza Toemen, Layla de Jonge, Oltia Gishti, Lennie van Osch-Gevers, Rob Taal, Eric Steegers, Albert Hofman, Willem Helbing, Vincent Jaddoe</i>	S66
5073	<b>Effect of tempol on blood pressure, renal inflammation and function in gestational high fat diet offspring</b> <i>Noemi Angélica Vieira Roza, Patricia Aline Boer, José Antônio Rocha Gontijo</i>	S66
5083	<b>Associations of linear growth and relative weight gain during early life with childhood fasting glucose and insulin resistance</b> <i>Marieke de Beer, Tanja G.M. Vrijkotte, Caroline H.D. Fall, Clive Osmond, Reinoud J.B.J. Gemke</i>	S66
4436	<b>Air pollution in infancy and chronic rheumatic heart disease: evidence for a link</b> <i>David Phillips</i>	S67
4438	<b>Exposition to ambient air pollution during perinatal life programs metabolic disruption in adult rat offspring</b> <i>Rosiane Aparecida Miranda, Stéphane Firmin, Anthony Verdin, Gabriel Sergio Fabricio, Flávio Andrade Francisco, Claudinéia Conatoni da Silva Franco, Carina Previante, Rodrigo Mello Gomes, Marlon E. Cerf, Latifa Abdennebi-Najar, Paulo Cezar de Freitas Mathias</i>	S67
4446	<b>An attempt of development of PCBs exposure assessment using Food Frequency Questionnaire in Japanese national birth cohort</b> <i>Norimichi Suzuki, Akifumi Eguchi, Masae Otake, Masamichi Hanazato, Yoshiharu Matsuno, Hiroko Nakaoka, Emiko Todaka, Chisato Mori</i>	S67
4462	<b>Relationship between maternal blood PCB level and distance towards the nearest fishing port in Japanese national birth cohort</b> <i>Masae Otake, Akifumi Eguchi, Norimichi Suzuki, Chie Koga, Yoshiharu Matsuno, Hiroko Nakaoka, Emiko Todaka, Chisato Mori</i>	S68

4536	<b>Perinatal Pesticide exposure results in metabolic dysfunction in adult rat offspring</b> <i>Tatiane Ribeiro, Audrey Pavanello, Ananda Malta, Laize Tôfolo, Isabela Martins, Deborah Sloboda, Gabriel Fabricio, Flávio Francisco, Stéphane Firmin, Latifa Najjar, Paulo Mathias</i>	S68
4577	<b>The influence of pre- and postnatal exposure to dioxins and PCBs on ADHD symptoms and cognitive functions in Norwegian preschool children</b> <i>Helle K. Knutsen, Anne Lise Brantsæter, Margaretha Haugen, Helen Engelstad Kvaalem, Jan Alexander, Helle Margrete Meltzer, Pål Zeiner, Heidi Aase</i>	S69
4585	<b>Biomonitoring for Lead, Cadmium, Total Mercury and Methylmercury Concentrations in Maternal Blood at 2nd Trimester and Umbilical Cord Blood at Birth</b> <i>Yu-Mi Kim, Young-Seoub Hong, Jin-Young Chung, Byoung-Gwon Kim</i>	S69
4599	<b>Air pollution - a potential early life programming agent?</b> <i>David Phillips, Clive Osmond</i>	S69
4607	<b>Methodological challenges for DOHaD studies: Disentangling pre- and postnatal exposure to persistent organic pollutants in a large pregnancy cohort</b> <i>Anne Lise Brantsæter, Margaretha Haugen, Helle Margrete Meltzer, Merete Eggesbø, Helle K Knutsen</i>	S70
4849	<b>Gestational exposure to Bisphenol-A: a new window of susceptibility for the development of diabetes in mothers later in life</b> <i>Paloma Alonso-Magdalena, Marta García-Arévalo, Ivan Quesada, Angel Nadal</i>	S70
4864	<b>Estimating Burden and Disease Costs of Exposure to Endocrine Disrupting Chemicals</b> <i>Leonardo Trasande, R. Thomas Zoeller, Ulla Hass, Andreas Kortenkamp, Philippe Grandjean, John Peterson Myers, Russ Hauser, Martine Bellanger, Pat Hunt, Paul Fowler, Sheela Sathyanarayana, Ruthann Rudel, Juliette Legler, Niels E. Skakkebaek, Jerrold J Heindel</i>	S70
4981	<b>Environmental contaminant exposures in DOHaD - building the Human Early-Life Exposome (HELIX)</b> <i>Martine Vrijheid, Oliver Robinson, Xavier Basagaña, Leda Chatzi, Muireann Coen, Regina Grazuleviciene, Peter van den Hazel, Mark Nieuwenhuijsen, Remy Slama, Catherine Thomsen, John Wright</i>	S71
5008	<b>Maternal occupational exposure to extremely low frequency magnetic fields and electrical shocks and birth outcomes across Europe</b> <i>Monica Guxens, Maribel Casas, Albert Dalmau-Bueno, Martine Vrijheid, Roel Vermeulen, Anke Huss</i>	S71
5031	<b>Multigenerational effects of paternal exposure to environmental contaminants</b> <i>Janice Bailey, Clotilde Maurice, Serge McGraw, Romain Lambrot, Nancy Côté, Arnaud Droit, Donovan Chan, Jacquetta Trasler, Sarah Kimmins</i>	S71
5087	<b>Preventive intervention to reduce human exposure of PCBs/Dioxins</b> <i>Chisato Mori, Akifumi Eguchi, Masae Otake, Masamichi Hanazato, Norimichi Suzuki, Masahiro Watanabe, Yoshiharu Matsuno, Hiroko Nakaoka, Emiko Todaka</i>	S72
4505	<b>Bisphenol-A exposure in utero disrupts pancreatic beta-cell function and mass in mice one month after delivery</b> <i>Marta Garcia-Arévalo, Paloma Alonso-Magdalena, Esther Fuentes, Ivan Quesada, Joan M. Servitja, Anna Novials</i>	S72
5352	<b>Bisphenol A (BPA) Increases Neural Progenitor Cell Proliferation and Enhances Differentiation of Appetite versus Satiety Neurons</b> <i>Michael G. Ross, Mina Desai, Guang Han, Marie H Beall</i>	S73
4380	<b>Development of a nutritional wellness program for staff at a Further Education and Training College</b> <i>Siveshnee Devar</i>	S73
4512	<b>Child protection actions after preterm, early term and post term birth - a follow up register-linkage study</b> <i>Suvi Alenius, Eero Kajantie, Pieta Näsänen-Gilmore, Marja Väärämäki, Mika Gissler, Petteri Hovi</i>	S73
4522	<b>Mother's accurate perception is insufficient in maintaining normal-weight in a Singaporean cohort of pre-school children</b> <i>Tuck Seng Cheng, See Ling Loy, Yin Bun Cheung, Jerry Kok Yen Chan, Mya Thway Tint, Keith Godfrey, Peter Gluckman, Kenneth Kwek, Seang Mei Saw, Yap-Seng Chong, Lynette Shek, Yung Seng Lee, Fabian Yap, Ngee Lek</i>	S74
4533	<b>Why do pregnant women participate in trials?</b> <i>Stephen Jeffares, Farah Sadrudin, Nicole Huisman, Hema Venkataraman, Ponnusamy Saravanan</i>	S74
4562	<b>A questionnaire survey to determine understanding of DOHaD concepts in populations of future registered dietitian nutritionists, and present/future midwives in Japan</b> <i>Aya Endo, Kanae Sato, Manabu Musashi, Masahito Oyamada</i>	S75

4565	<b>Characterising the potential of undergraduate courses to facilitate understanding of DOHaD concepts in populations of future health professionals</b> <i>Masabito Oyamada, Sarah Morgan, Robyn Dixon, Clare Wall, Anecita Lim, Jacquie Bay</i>	S75
4569	<b>Social network as a health promotion tool for pregnant women: the Welcome Baby Project</b> <i>Ana Maria Escobar, Murilo Wadt, André Covic, Carolina Hofmeister Mansu, Filumena Gomes, Maria Helena Valente, Grisi Sandra, Joana Abucham Ribeiro</i>	S75
4570	<b>Pregnant women, educational level and most used health information search sites</b> <i>Ana Maria Escobar, Murilo Wadt, André Covic, Carolina Hofmeister Mansu, Filumena Gomes, Maria Helena Valente, Grisi Sandra, Joana Abucham Ribeiro</i>	S76
4572	<b>Is there a relationship between maternal body mass index and pregnancy intention?</b> <i>Kate Cheney, Marilena Pelosi, Joanne Ludlow, Alexandra Barrett, Kirsten Black</i>	S76
4584	<b>Ensuring empowerment of women and girls is at the center of DOHaD translation programs</b> <i>Mark Vickers, Susan Morton</i>	S76
4587	<b>Neonatal outcomes of unplanned pregnancy in the GUSTO birth cohort study</b> <i>See Ling Loy, Tuck Seng Cheng, Yin Bun Cheung, Keith Godfrey, Peter Gluckman, Kenneth Kwek, Seang Mei Saw, Yap-Seng Chong, Fabian Yap, Ngee Lek, Jerry Kok Yen Chan</i>	S77
4591	<b>The Healthy Start to Life Education for Adolescents Project: Indicators of early success in adaptation for use in Small Island Developing States</b> <i>Delaney Yaqona, Karen Tairea, Sarah Morgan, Tania Morgan, Mark Vickers, Celeste Barrett-Watson, Jackson Martin, Upokoima Herrmann</i>	S77
4604	<b>The Political Ecology of Perinatal Nutrition in Khayelitsha, South Africa</b> <i>Michelle Pentecost</i>	S77
4605	<b>Shapes of nourishment: how ingestion edits life in the Cape Winelands</b> <i>Carina Truys</i>	S78
4623	<b>Perceptions of reproductive medicine clinical staff involved in a long-term, longitudinal study in pregnancy</b> <i>Gail Pounder, Hema Venkataraman, Sammy Case, Chin Wei Wong, Ponnusamy Saravanan</i>	S78
4679	<b>Maternal preferences for infant body size are associated with feeding practices and infant obesity among American Samoans</b> <i>Nicola L Hawley, Renu Nadkarni, Jeanette Sternberg-Lamb, Matauitafa Faiiai, Bethel T Muasau-Howard, Aileen Solaita, Stephen T McGarvey</i>	S78
4676	<b>Epigenetic programming, respect for autonomy and intergenerational justice: a new ethical battleground in connection with the fight against obesity</b> <i>Lyne Létourneau, Louis-Étienne Pigeon</i>	S79
5035	<b>OPERA: the Optimal Pregnancy Environment Risk Assessment program, an initiative of the Preterm Birth International Collaborative (PREBIC)</b> <i>David Olson</i>	S79
5071	<b>Mothers, Daughters and Pregnancy Outcome: Narratives Across Time from Sana'a, Yemen</b> <i>Annica Kempe</i>	S79
4304	<b>Patterns of Body Mass Trajectory and Impact of Lifestyle Factors among Japanese Children</b> <i>Chiyori Haga, Yoko Aihara</i>	S79
4405	<b>Age at menarche in relation to digit ratio among high school girls in Kuwait</b> <i>Abdullah Al-Taiar</i>	S80
4418	<b>Ethnic differences and determinants of infant BMI peak in a multi-ethnic Asian population</b> <i>Izzuddin Aris, Jonathan Bernard, Mya Thway Tint, Ling Wei Chen, Wei Wei Pang, Shu E Soh, Seang Mei Saw, Kenneth Kwek, Keith Godfrey, Peter Gluckman, Yap Seng Chong, Fabian Yap, Yung Seng Lee</i>	S80
4439	<b>Comparing the body composition of preterm infants born</b> <i>Margaret Sheridan-Pereira, Edna Roche</i>	S80
4440	<b>The effect of gender on body composition in preterm infants</b> <i>Margaret Sheridan-Pereira, Edna Roche</i>	S81
4487	<b>Low cost body composition measurement for nutrition assessment using Near Infrared (NIR) light reflection</b> <i>Angela Carberry, Emily Bek, Fatin Hamim Mustafa, Peter Jones, Alistair McEwan, Heather Jeffery</i>	S81

4521	<b>Maternal determinants of differences in size and adiposity between Pakistani origin and White British origin children age 4/5</b> <i>Lesley Fairley, Emily Petherick, John Wright, Debbie A Lawlor</i>	S81
4583	<b>Supraclavicular Brown Adipose Tissue Composition at Birth Predicts Adiposity Gain Over the First Year of Life</b> <i>Sonja Entringer, Jerod Rasmussen, Pathik Wadhwa, Claudia Buss</i>	S82
4592	<b>Tracking of abdominal fat mass during childhood. The Generation R Study</b> <i>Suzanne Voegelezang, Olta Gishti, Romy Gaillard, Eline van der Beek, Marieke Abrahamse, Albert Hofman, Janine Felix, Vincent Jaddoe</i>	S82
4597	<b>Pattern of undernutrition among U-5 and primary school children in Nigeria using anthropometric indices</b> <i>Rachael Akano, Rasaki Sanusi</i>	S82
4645	<b>More evidence for ‘Thin-fat’ Asian babies from a high risk UK population: Preliminary results from the PRiDE pregnancy cohort</b> <i>Hema Venkataraman, Amina Dawoodji, Samina Zaheer, Nithya Sukumar</i>	S83
4700	<b>Late prematurity and adiposity in adolescents: evidence from “Children of 1997” Birth Cohort</b> <i>Connie HUI, H. Simon LAM, Gabriel M. Leung, C. Mary Schooling</i>	S83
4883	<b>Associations of infant subcutaneous fat mass with total and abdominal fat mass at school-age. The Generation R Study</b> <i>Susana Santos, Romy Gaillard, Andreia Oliveira, Henrique Barros, Marieke Abrahamse-Berkeveld, Eline M van der Beek, Albert Hofman, Vincent WV Jaddoe</i>	S83
4893	<b>Early childhood growth in term low birth weight Indian newborns: Follow-up of Delhi Infant Vitamin D Supplementation Study, India</b> <i>Manpreet Kaur, Geeta Trilok Kumar, Sikha Sinha, Suzanne Filteau, Clive Osmond, Harshpal Singh Sachdev</i>	S84
4920	<b>The long-term effects of childhood overweight and obesity on bone health in later life</b> <i>Hongbo Dong, Dongqing Hou, Yinkun Yan, Junting Liu, Hong Cheng, Jie Mi</i>	S84
4928	<b>Nutritional Status and Growth of Infants in a South African Birth Cohort Study</b> <i>Shrish Budree, Elizabeth Goddard, Kirsty Brittain, Whitney Barnett, Landon Myer, Heather Zar</i>	S85
4968	<b>Long-term effects of internal displacement during early life on adolescent growth and final height in post-conflict northern Uganda</b> <i>Stine Schramm, Henrik Ravn, Marianne Skytte Jakobsen, Morten Sodemann</i>	S85
5086	<b>Prevalence of overweight and obesity among primary school children in a developing country: NW-CHILD longitudinal data of 6-9-yr-old children in South Africa</b> <i>Anita Pienaar</i>	S85
4480	<b>Maternal Serum Adiponectin During Pregnancy is Associated with Infant’s Adiposity in The Universiti Sains Malaysia Pregnancy Cohort Study</b> <i>Hamid Jan Jan Mohamed, Marbazlina Mohamed, See Ling Loy, Yu Wang</i>	S86
4503	<b>Preliminary study of infant growth in ‘SARAS KIDS’, follow up of Project SARAS, a food based intervention before and during pregnancy</b> <i>Caroline Fall, Sirazul Sahariah, Meera Gandhi, Harsha Chopra, Harshad Sane, Monika Dayama, Nick Brown, Barrie Margetts</i>	S86
4514	<b>Maternal dietary practices and anthropometric status of infants aged 0-6 weeks in Makuya village, Thulamela municipality, Vhembe district of Limpopo province</b> <i>Zwidofhelangani Matsea, Tjale Mahopo</i>	S86
4694	<b>A maternal ‘junk food’ diet alters mu-opioid receptor mRNA expression in late but not early postnatal development in female offspring</b> <i>Jessica Gugusheff, Iain Clarke, Zhi Yi Ong</i>	S87
4403	<b>Effect of maternal high-fat diet on cardiac function of male and female juvenile offspring</b> <i>Suelen Guedes Zeca, Taina Moraes de Oliveira, Natalia D’Assupção Lima Rangel, Isalira Peroba Ramos, Carmem Cabanelas Pazos-Moura, Isis Hara Trevenzoli, Norma Aparecida dos Santos Almeida</i>	S87
4426	<b>Low-protein diet during last third of gestation malprograms HPA-axis leading to impaired insulin secretion in adult rat offspring</b> <i>Júlio Cezar de Oliveira, Patrícia Cristina Lisboa, Rodrigo Mello Gomes, Rosiane Aparecida Miranda, Luiz Felipe Barella, Isabela Peixoto Martins, Vander Alves Silva, Flavio Andrade Francisco, Egberto Gaspar de Moura, Paulo Cezar de Freitas Mathias</i>	S87



4460	<b>Maternal Supplementation with a Soluble Fibre (polydextrose) Prevents the Adverse Effects of Maternal Obesity on Offspring Energy Expenditure in Mice</b> <i>Xanthi Maragkoudaki, Matthew Naylor, Joaquim Pombo, Lucilla Poston, Paul Taylor</i>	S88
4484	<b>Coconut Water improves Reproductive Indices in Adult Offspring of High Fat Diet Fed Dams</b> <i>Opeyemi Akindede, Yinusa Raji</i>	S88
4496	<b>Later pregnancy appetite, dietary intake, and small-for-gestational-age</b> <i>Fuying Tian, Xiaozhong Wen, Chuanbo Xie, Jianmiao Lin, Shixin Yuan, Xiaoling Guo, Weiqing Chen</i>	S89
4558	<b>Maternal dietary mineral intake during gestation and the association with infant crown-heel length</b> <i>Sharon Brennan-Olsen, John Wark, Kathy Bennett, Julie Pasco</i>	S89
4615	<b>Micronutrients in Pregnancy as a Risk Factor for gestational Diabetes and Effects on mother and baby - PRiDE study rationale and protocol</b> <i>Amitha Gopinath, Nithya Sukumar, Hema Venkataraman, Caroline Fall, Jad Siblini, Philesa Walters</i>	S89
4642	<b>The Effect of Prenatal n-3 Fatty Acid Supplementation in Infants on Cardiometabolic Risk Factors at Birth and at the 12-year Follow-up</b> <i>Valene HL See, Rae-Chi Huang, Trevor A Mori, Susan L Prescott, Lawrence J Beilin, Sally Burrows</i>	S90
4647	<b>Effects of Prenatal n-3 Fatty Acid Supplementation on Offspring Resolvins at Birth and at 12 Years of Age</b> <i>Valene HL See, Emilie Mas, Trevor A Mori, Rae-Chi Huang, Susan L Prescott, Lawrence J Beilin, Sally Burrows</i>	S90
4656	<b>Maternal high-fat diet programs endocannabinoid metabolism in male and female rat offspring at weaning</b> <i>Camilla Dias-Rocha, Mariana Almeida, Andre Silva, Mariana Muros, Carmen Pazos-Moura, Isis Trevenzoli, Juliana Franco</i>	S90
4671	<b>Maternal high-fat diet programs obesity and sex-specific differences in cannabinoid receptor expression in adipose tissue of weanling rats</b> <i>Mariana Macedo de Almeida, Camilla Pereira Dias-Rocha, André de Souza Silva, Juliana Gastão Franco, Carmen Cabanelas Pazos de Moura, Norma Aparecida dos Santos Almeida, Aline Cordeiro, Isis Hara Trevenzoli</i>	S91
4678	<b>Formula milk derived CML induces RAGE activation, long term inflammation and oxidative stress in IUGR piglets</b> <i>Ghada Elmhiri, Dler F Mahmood, Celine Niquet-Leridon, Philippe Jacolot, Stephane Firmin, Lydie Guigand, Frederic J. Tessier, Thibaut Larcher, Latifa Abdennebi-Najar</i>	S91
4693	<b>A prenatal/lactation diet rich in omega-3 PUFAs may provide protection against diabetes in adulthood: a rat model of low diabetes prevalence among Yup'ik Alaskan Natives</b> <i>Daniel Benyshek, Julie Kachinski, Hongbin Jin</i>	S92
4695	<b>Zinc supplementation during mice gestation modifies breast cancer susceptibility of the female offspring in adulthood</b> <i>Raquel Santana, Fábila De Oliveira Andrade, Sônia De Assis, Mariana Papaléo Rosim, Mayara Lilian P. Miranda, Mari Cleide Sogayar, Pedro Vitoriano Oliveira, Inar Alves de Castro, Luís Fernando Barbisan, Thomas Prates Ong</i>	S92
4848	<b>Maternal dietary patterns and infant birth outcomes in a multi-ethnic Asian population</b> <i>Airu Chia, Jamie de Seymour, Marjorelee Colega, Yiong-Huat Chan, Izzuddin Aris, Mya-Thway Tint, Phaik-Ling Quah, Keith Godfrey, Kenneth Kwek, Seang-Mei Saw, Peter Gluckman, Yap-Seng Chong, Philip Baker, Yung Seng Lee, Mary Chong</i>	S92
4863	<b>Impact of maternal and/or paternal blackberry (Rubus spp.) extract consumption on female offspring susceptibility to chemically-induced breast carcinogenesis</b> <i>Vanessa Cardoso Pires, Sara Lima Anacleto, Gabriela Rezende Costa, Laila Abicair Sangaletti Santos, Neuza Mariko Aymoto Hassimotto, Franco Maria Lajolo, Odair Aguiar Jr, Thomas Prates Ong</i>	S93
4978	<b>A proposal for determining the associations of iron and fatty acid status with birth outcomes in urban South African pregnant women</b> <i>Elize Symington, Marius Smuts, Jeannine Baumgartner</i>	S93
4987	<b>Effects of a maternal high-fat, high-sucrose diet and folate supplements on insulin-signaling and lipid metabolism inheritance in male rat offspring</b> <i>Dan Ramdath, Candace Cuthbert, Aileen Hawke, Jerome Foster</i>	S94
5033	<b>Prenatal nutrient restriction induces reproductive dysfunction and an early loss of ovarian follicles</b> <i>Kaitlyn Chan, Deborah Sloboda, Nicole Yokubynas</i>	S94

4649	<b>Associations of maternal folate and vitamin B12 status with offspring's linear growth in a multi-ethnic Asian mother-offspring cohort study</b> <i>Ling-Wei Chen, Ai Lin Lim, Marjorelee Colega, Mya-Thway Tint, Izzuddin M. Aris, Jonathan Y. Bernard, Peter D. Gluckman, Keith M. Godfrey, Kenneth Kwek, Seang-Mei Saw, Yap-Seng Chong, Fabian Yap, Rob M. van Dam, Mary Foong-Fong Chong, Yung Seng Lee</i>	S94
4474	<b>Dietary patterns and the development of the PCOS phenotype: the chance of ongoing pregnancy</b> <i>Nicole Huijgen, Joop Laven, Yvonne Louwers, Sten Willemsen, Jeanne de Vries, Régine Steegers-Theunissen</i>	S95
4563	<b>Low vitamin B12 in pregnancy is associated with maternal obesity and gestational diabetes</b> <i>Nithya Sukumar, Sean Wilson, Hema Venkataraman, Ponnusamy Saravanan</i>	S95
4657	<b>Vitamin B12 deficiency impairs insulin signalling in human adipocytes by down regulating Akt via PTEN and Trb3</b> <i>Antony Sunil Adaikalakeswari, Manu Vatisb, Sudhesh Kumar, Philip McTernan, Ponnusamy Saravanan, Gyanendra Tripathi</i>	S96
4665	<b>Resveratrol supplementation during pregnancy in an animal model of maternal obesity</b> <i>Domfeh EA, Richardson E, Maicas Blasco N, Samuelsson AM, K. Macé Poston L, Castañeda-Gutiérrez E, Taylor PD</i>	S96
4956	<b>Association between sweetened beverages during pregnancy and gestational weight gain</b> <i>Shu E Soh, Wen Fang Seoh, Joren Colega, Peter D. Gluckman, Keith M. Godfrey, Seang Mei Saw, Kenneth Kwek, Yap Seng Chong, Mary Foong-Fong Chong</i>	S96
4564	<b>GLP-1 response to a glucose load and its associated outcomes in gestational diabetes (GDM) pregnancies and controls: Rationale and Protocol</b> <i>Nithya Sukumar, Gail Pounder, Ilona Goljan, Selvin Selvamoni, Hema Venkataraman, Ponnusamy Saravanan</i>	S97
4617	<b>Diabetic pregnancies have augmented umbilical venous supply to the right fetal liver lobe linearly related to accelerated growth</b> <i>Agneth Lund, Ebbing Cathrine, Torvid Kiserud, Jørg Kessler</i>	S97
4621	<b>Low breast-feeding rates in women with high risk of gestational diabetes mellitus: differences between South-Asians and Caucasians</b> <i>Rajni Vekaria, Ree Thee Bhatt, Angeliki Xiarchou, Karen Shorthose, Hema Venkataraman, Nithya Sukumar, Ponnusamy Saravanan</i>	S97
4707	<b>Developing Computational Intelligence-based Practical Predictive Analytics and Decisioning Systems Frameworks for Gestational Diabetes Management</b> <i>Zacchaeus Oni Omogbadegun, Sena Rita Okuboyejo</i>	S98
4889	<b>Maternal dietary patterns and Gestational Diabetes Mellitus in a multi-ethnic Asian cohort</b> <i>Jamie V de Seymour, Airu Chia, Marjorelee Colega, Beatrix Jones, Cai Shirong, Keith Godfrey, Kenneth Kwek, Saw Seang Mei, Peter Gluckman, Cath Conlon, Yap Seng Chong, Philip Baker, Mary FF Chong</i>	S98
4919	<b>Epigenome-wide and transcriptome-wide analyses reveal gestational diabetes is associated with alterations in the Human Leukocyte Antigen complex</b> <i>Alexandra M. Binder, Jessica LaRocca, Corina Leseur, Carmen Marsit</i>	S99
4502	<b>The double burden of disease in the rural and urban free state</b> <i>Corinna Walsh, Reinetty Tydeman-Edwards, Cornel Van Rooyen</i>	S99
4504	<b>Cohort profile: The Across-generation Study in Chinese Females</b> <i>Wanghong Xu, Hong Fang, Guoyou Qin</i>	S99
4547	<b>Dental biomarkers for evaluating chronic disease risk later in life: longitudinal evidence from the Bolivian Amazon</b> <i>Philippe P Hujoel, Dan T.A. Eisenberg, Daniel A. Enquobahrie, Paula S. Nurius, Annette L. Fitzpatrick</i>	S100
4935	<b>Risk factors for development of future chronic disease from an Indigenous Australian cohort</b> <i>Loretta Weatherall, Roger Smith, Clare Collins, Kym Rae, Eugenie Lumbers</i>	S100
4564	<b>GLP-1 response to a glucose load and its associated outcomes in gestational diabetes (GDM) pregnancies and controls: Rationale and Protocol</b> <i>Nithya Sukumar, Gail Pounder, Ilona Goljan, Selvin Selvamoni, Hema Venkataraman, Ponnusamy Saravanan</i>	S100
4621	<b>Low breast-feeding rates in women with high risk of gestational diabetes mellitus: differences between South-Asians and Caucasians</b> <i>Rajni Vekaria, Ree Thee Bhatt, Angeliki Xiarchou, Karen Shorthose, Hema Venkataraman, Nithya Sukumar, Ponnusamy Saravanan</i>	S101

4889	<b>Maternal dietary patterns and Gestational Diabetes Mellitus in a multi-ethnic Asian cohort</b> <i>Jamie V de Seymour, Airu Chia, Marjorelee Colega, Beatrix Jones, Cai Shirong, Keith Godfrey, Kenneth Kwek, Saw Seang Mei, Peter Gluckman, Cath Conlon, Yap Seng Chong, Philip Baker, Mary FF Chong</i>	S101
4511	<b>Moderate exercise with low frequency training improves thermogenic activity in early overfeeding rats without changes in VO2max capacity</b> <i>Audrei Pavanello, Ananda Malta, Tatiane Aparecida Ribeiro, Laíze Perón Tófolo, Thauany Fabbri, Adriane Barreto Gôngora, Lucas Eduardo Cardoso, Kesia Palma-Rigo, Paulo Cezar de Freitas Mathias</i>	S102
4479	<b>Pancreatic sympathectomy causes metabolic disorders and impaired insulin secretory response by pancreatic beta cells</b> <i>Kelly Valério Prates, Ananda Malta, Rosiane Aparecida Miranda, Flavio Andrade Francisco, Claudinéia Conationi da Silva Franco, Elaine Vieira, Kesia Palma Rigo, Paulo Cezar de Freitas Mathias</i>	S102
4481	<b>Enalapril Restores Endothelium-Derived Hyperpolarizing Factor-Mediated Relaxation in Mesenteric Artery of Prenatal Testosterone Exposed Adult Rats</b> <i>K Sathishkumar, Amar More, Jay Mishra, Gary Hankins, Chandra Yallampalli</i>	S103
4483	<b>Multigenerational sex-specific effects of maternal BPA exposure on glucose and KIC stimulated insulin secretion and islet gene expression in mice</b> <i>Changhong Li, Martha Susiarjo, Tom van der Meer, Cetewayo Rashid, Amita Bansal, Marisa Bartolomei, Rebecca Simmons</i>	S103
4552	<b>Early treatment with antidiabetic glibenclamide inhibits rat growth tumor independent of metabolism improvement</b> <i>Carina Previante, Claudinéia Franco, Rosiane Miranda, Ananda Malta, Tatiane Ribeiro, Juliane Sant'Anna, Marialba Prado, Hely Morais, Helenir Souza, Rodrigo Gomes, Flávio Francisco, Paulo Mathias</i>	S103
4553	<b>Early treatment with metformin inhibits obesity onset and muscarinic receptor dysfunction in pancreatic islets of rats</b> <i>Adriane Barreto, Rosiane Miranda, Luiz Barella, Kelly Prates, Veridiana Moreira, Lucas Cardoso, Lucas Saavedra, Flávio Francisco, Júlio de Oliveira, Paulo Mathias, Claudinéia Franco</i>	S104
4567	<b>Kidney Function and Pathology in Adult Rats Following Hyperoxia Exposure during Nephrogenesis</b> <i>Mariane Bertagnolli, Anik Cloutier, Chanel Béland, Marie-Amélie Lukaszewski, Megan R. Sutherland, Anne Monique Nuyt</i>	S104
4612	<b>Postnatal overnutrition programs thyroid hormone metabolism and function in adult rat progeny</b> <i>Patricia Cristina Lisboa, Elaine de Oliveira, Ellen P. S. Conceição, Egberto Gaspar Moura</i>	S105
4620	<b>Secondary signalling responses shared between skin fibroblasts of patients with clinically severe and marginally affected 3-methylcrotonyl-CoA carboxylase deficiency</b> <i>Lizelle Zandberg, Alberdina Aike van Dijk</i>	S105
4637	<b>Melanocortin-4 receptor mediates leptin associated renal dysfunction secondary to neonatal hyperleptinaemia</b> <i>Sarah Wylie, Nuria Macais Blasco, Nynke R. Oosterhuis, Joles A. Joles, Joaquim M. Pombo, Nina Balthasar, Paul D. Taylor, Lucilla Poston</i>	S105
4641	<b>Renal denervation reverses the development of juvenile hypertension, renal dysfunction and renal injury secondary to neonatal hyperleptinaemia</b> <i>Ramon Fernandes, Nynke R. Oosterhuis, Nuria Macais Blasco, Jaap A. Joles, Joaquim M. Pombo, Paul D. Taylor, Lucilla Poston</i>	S106
4661	<b>Vitamin B12 deficiency alters adipogenesis and associated microRNA's in human adipocytes</b> <i>Antonysunil Adaikalakoteswari, Hema Venkataraman, Manu Vatish, Philip McTernan, Gyanendra Tripathi, Ponnusamy Saravanan</i>	S106
4720	<b>Experimental hyperleptinaemia in neonatal rats mimics the effects of maternal obesity on POMC expression in the arcuate nucleus</b> <i>Sung Eun Bae, Timothy South, Paul Taylor, Lucilla Poston, Clive Coen</i>	S107
4786	<b>Sex differences in early life programming of the Hypothalamic-Pituitary-Adrenal axis in humans suggest increased vulnerability in females</b> <i>Thomas Carpenter, Sheila Grecian, Rebecca M Reynolds</i>	S107
4866	<b>From embryos to adults: transcriptional signatures throughout development following preimplantation embryo manipulation</b> <i>Sky Feuer, Xiaowei Liu, Rhodel Simbulan, Annemarie Donjacour, Paolo Rinaudo</i>	S108

4870	<b>Modulation of SIRT1 expression by resveratrol: a protective role against accelerated senescence of endothelial progenitor cells in preterm infants</b> <i>Yzydorczyk Catherine, Simoncini Stéphanie, Boubred Farid, Sabatier Florence, Dignat-George française, Simeoni Umberto</i>	S108
4899	<b>Early maternal DEX administration alters fetal ovine hepatic and placental glucose regulation in a sex-specific manner</b> <i>Braun Thorsten, Huaisheng Xu, Hongkai Shang, Li Shaofu, Ehrlich Loreen, Henrich Wolfgang, Newnham John, Challis John, Plagemann Andreas, Sloboda Deborah</i>	S108
4914	<b>Neonatal Adiposity Increases with Rising Cord Blood Insulin-like Growth Factor 1 Levels</b> <i>Rachel Kadakia, Jami Josefson</i>	S109
5006	<b>Assessment of the effect of low doses of food contaminants on Min6 and rat isolated pancreatic cells stress response</b> <i>Firmin Stéphane, Malta Ananda, Elmhiri Ghada, Babi-Jaber Narges, Abdennebi-Najar Latifa</i>	S109
5077	<b>Neurokinins expression in dorsal root ganglia, renal sodium handling and hypertension in maternal protein-restricted rats: role of renal nerves</b> <i>Augusto Henrique Custódio, Marcelo Cardoso de Lima, Patricia Aline Boer, José Antônio Rocha Gontijo</i>	S110
5088	<b>Single cell transcriptional analysis: delineating cell lineage and pluripotency during human blastocyst formation</b> <i>Sophie Petropoulos, Edsgård, Daniel, Deng, Qiaolin, Sandberg, Rickard, Lanner, Fredrik</i>	S110
4566	<b>Glibenclamide early treatment improves rat autonomic nervous system activity in MSG-induced obesity</b> <i>Elaine Vieira, Rosiane Miranda, Laize Tófolo, Flávio Francisco, Vander Alves, Rosana Torrezan, Júlio de Oliveira, Jean Besson, Carina Previante, Isabela Martins, Paulo Mathias, Claudinéia Franco</i>	S110
4343	<b>Body Mass Index (BMI), its determinants and association with adult chronic disease at 10-year follow-up in the Lifeways Cross-Generation Cohort Study</b> <i>Mirjam Heinen, Pauline O'Reilly, Sally McKey, Rebecca Somerville, Karien Viljoen, Ricardo Segurado, Celine Murrin, Cecily Kelleher</i>	S111
4450	<b>Longitudinal changes in glucose and lipid metabolism in relation to maternal BMI: results from the stork study</b> <i>Marie Cecilie Paasche Roland, Camilla M Friis, Kristin Godang, Jens Bollerslev, Tore Henriksen</i>	S111
4458	<b>Digit ratio (2D:4D), parameters of reproductive history and sex hormones in a rural population</b> <i>Magdalena Klimek, Andrzej Galbarczyk, Ilona Nenko, Grazyna Jasienska</i>	S112
4519	<b>Maternal metabolic outcomes in women with a history of hypertensive pregnancy disorders</b> <i>Laura Benschop, Jeanine E Roeters-van Lennep, Sarah Schalekamp-Timmermans, Vincent WV Jaddoe, Nienke E Bergen, Eric AP Steegers</i>	S112
4520	<b>Adipose tissue adiponectin expression and its relation to metabolic and endocrine parameters in women with gestational diabetes and their offspring</b> <i>Rebecca C. Rancourt, Jens H. Stupin, Kerstin Melchior, Thomas Ziska, Wolfgang Henrich, Andreas Plagemann</i>	S112
4573	<b>PRE-PLAN: A randomised controlled trial assessing the impact of preconception weight loss for overweight or obese women</b> <i>Kyra Sim, Rachel O'Connell, Michael Peek, Jon Hyett, Ralph Nanan, Kirsten Black, Margaret Allman-Farinelli, Jennie Brand-Miller, Adrian Bauman, Ian Caterson</i>	S113
4589	<b>Psychosocial exposures during childhood and development of adult obesity: a co-twin control study</b> <i>Marianne Vamosi, Kirsten Ohm Kyvik, Berit L Heitmann</i>	S113
4603	<b>Proton pump inhibitors detrimentally affect motile sperm count in men of reproductive age</b> <i>Nicole Huijgen, Maria de Ridder, Ann Vanrolleghem, Katia Verhamme, Miriam Sturkenboom, Joop Laven, Régine Steegers-Theunissen</i>	S114
4619	<b>Maternal waist circumference in early pregnancy and truncal adiposity during late pregnancy are associated with glucose intolerance</b> <i>Judith Plester, Hema Venkataraman, Karen Rouault, Pareena Patel, Natalie Maltseva, Ponnusamy Saravanan</i>	S114
4626	<b>Gestational weight gain in obese pregnant women is associated with higher central adiposity</b> <i>Jacqueline Farmer, Hema Venkataraman, Ellie Wright, Hannah Brown, Ponnusamy Saravanan</i>	S114
4634	<b>Perinatal probiotic supplementation has later consequences on adult metabolism and immunity in pigs used as a human model</b> <i>Cindy Le Bourgot, Sophie Blat, Stéphanie Ferret-Bernard, Emmanuelle Apper, Frédérique Respondek, Isabelle Le Huërou-Luron</i>	S115



4667	<b>The associations of leptin and other maternal variables with gestational weight gain differ according to pre-gestational body mass index categories</b> <i>Ana Beatriz Franco-Sena, Fernanda Rebelo, Thatiana Pinto, Dayana Farias, Gabrielle Esteves, Gilberto Kac</i>	S115
4706	<b>Sweet dreams in pregnancy: influence of antenatal sleep quality and sleep duration on maternal blood glucose in women with risk factors for gestational diabetes</b> <i>Shirong Cai, Sara Tan, Peter D. Gluckman, Keith M. Godfrey, Seang Mei Saw, Kok-Hian Tan, George SH Yeo, Kenneth Kwek, Michael J. Meaney, Yap-Seng Chong, Joshua J. Gooley</i>	S116
4713	<b>Severe early childhood infection, low socioeconomic status and adverse cardiometabolic risk phenotypes in adulthood: The Cardiovascular Risk in Young Finns Study</b> <i>Richard S. Liu, David P. Burgner, Matthew A. Sabin, Costan G. Magnussen, Michael Cheung, Mika Kähönen, Terho Lehtimäki, Nina Hutri-Kähönen, Eero Jokinen, Tomi Laitinen, Leena Taittonen, Päivi Tossavainen, Terence Dwyer, Jorma S.A. Viikari, Olli T. Raitakari</i>	S116
4731	<b>Metabolic syndrome, objectively measured physical activity and early growth - the helsinki birth cohort study</b> <i>Minna Salonen, Niko Wasenius, Mikaela Von Bonsdorff, Eero Kajantie, Johan Eriksson</i>	S116
4912	<b>Current Status of gestational weight gain in China: A systematic review and meta-analysis</b> <i>Hongbo Dong, Jie Dong, Fangfang Chen, Jie Mi</i>	S117
4922	<b>Childhood obesity affects adult metabolic syndrome and diabetes</b> <i>Hong Cheng, Dongqing Hou, Xiaoyuan Zhao, Junting Liu, Yinkun Yan, Jie Mi</i>	S117
4971	<b>Associations of Socio-demographic factors with Body Mass Index among women of Reproductive age living in slums of Mumbai, India</b> <i>Sirazul Sahariah, Caroline Fall, Meera Gandhi, Harshad Sane, Harsha Chopra, Swati Jha, Patsy Coakley, Nick Brown, Sarah Kehoe, Ramesh Potdar</i>	S117
5010	<b>Maternal fatty acid profiles, hemodynamic adaptations and gestational hypertensive disorders. The Generation R Study</b> <i>Romy Gaillard, Aleksandra Jelena Vidakovic, Henning Tiemeier, Albert Hofman, Eric Steegers, Vincent Jaddoe</i>	S118
5019	<b>Non-alcoholic Fatty Liver Disease among adult survivors of Severe Acute Malnutrition</b> <i>Debbie Thompson, Ingrid Tennant, Deanne Soares, Tamika Royal-Thomas, Christopher Byrne, Terrence Forrester, Michael Boyne</i>	S118
5022	<b>Pre-conception Anaemia and Body Mass Index among participants of a study evaluating foetal programming for Non-communicable Diseases (FOETALforNCD) in Tanzania</b> <i>Christentze Schmiegelow, Omari Abdul, Daniel Minja, Sofie Lykke, Ib C Bygbjerg, John Lusingu, Vaag Allan, Birgitte Bruun Nielsen, Reginald Kavisho</i>	S118
5142	<b>Associations of early stunting with cardiometabolic risk factors in adulthood</b> <i>Emanuella De Lucia Rolfe, Giovanni V A França, Denise Gigante, Jaime Miranda, John Yudkin, Ken Ong</i>	S119
4825	<b>Prenatal maternal stress increases the risk of asthma?</b> <i>Heinrich Joachim</i>	S119
4410	<b>Does comorbid attention deficit/hyperactivity disorder effects cognition in Bipolar Disorder?</b> <i>Cem Gündüz, Mehmet Çevik</i>	S120
4478	<b>Brighter Children: The Association between Child Season of Birth and IQ</b> <i>Steegers-Theunissen R.P.M., Tiemeier H.</i>	S120
4507	<b>Early nutritional intervention prevents the early-life adversity induced cognitive impairments</b> <i>Eva F.G. Naninck, Kit-Yi Yam, Lidewij Schipper, Torsten Plosch, Hans J.B. van Goudoever, Annemarie Oosting, Eline M. van der Beek, Paul J. Lucassen</i>	S120
4529	<b>Childhood parental income, anthropometrics at age 24 months and cognitive abilities at age 20 years - The Helsinki Birth Cohort Study 1934-1944</b> <i>H. Maiju Mikkonen, Katri Räikkönen, Markus Henriksson, Johan G. Eriksson, Eero Kajantie</i>	S121
4537	<b>Cadmium-affected cognitive and behavioral development to 10 years of age: A prospective cohort study in Bangladesh</b> <i>Fahmida Tofail, Annachiara Malin Igra, Jena Hamadani, Syed Moshfiqur Rahman, Marie Vahter</i>	S121
4546	<b>The Relationship Between Perfectionism and Depression in Panic Disorder</b> <i>Emrah</i>	S121

- 4582 **Effects of inadequate iodine status in pregnancy on infant development. Results from a Norwegian longitudinal observational study** S122  
*Maria Wik Markhus, Ingvild Eide Graff, Camilla Fløysvik Seldal, Lisbeth Dahl, Livar Frøyland, Jannike Øyen, Siv Skotheim, Hanne Cecilie Braarud, Kjell Morten Stormark, Marian Kjellevoid Malde*
- 4594 **The Association between Autism Spectrum Traits and Visual Processing in Young Adults with Very Low Birth Weight: Helsinki Study of Very Low Birth Weight Adults** S122  
*Elina Seppä, Anu-Katriina Pesonen, Kati Heinonen, Marius Lahti, Riikka Pyhälä, Eero Kajantie, Petteri Hovi, Sture Andersson, Katri Räikkönen*
- 4624 **Pregnant women of South Asian origin have higher prevalence of symptoms suggestive of anxiety and depression in early pregnancy** S123  
*Selvin Selvamoni, Hema Venkatraman, Nithya Sukumar, Judith Plester, Jessica Laidlaw, James Hesford, Ponnusamy Saravanan*
- 4636 **Multigenerational Programming of Anxiety Related Gene Expression in the Prefrontal Cortex after Antenatal Glucocorticoid: Paternal Transmission** S123  
*Andrea Constantino, Vasilis Moisiadis, Alisa Kostaki, Stephen Matthews*
- 4640 **Does Prenatal exposure to arsenic affect offspring cognition and educational outcomes?** S123  
*James Jungius, Sarah Lewis, Carolina Bonilla, Caroline Relton, George Davey Smith*
- 4682 **Cognitive function can be affected by the physical properties of dietary lipids in early life** S124  
*Lidewij Schipper, Laus M. Broersen, Maarten Loos, Anton J.W. Scheurink, Gertjan van Dijk, Nana Bartke*
- 4692 **Periconceptional folic acid supplementation and child risk of autism spectrum disorder. Analysis from 89,293 mother-child pairs from the Danish National Birth Cohort** S124  
*Marin Strøm, Alberto Ascherio, Kristen Lyall, Sjúrdur Fródi Olsen*
- 4704 **Birth weight and school performance using twin status as an instrumental variable: evidence from Hong Kong's 'Children of 1997' birth cohort** S124  
*Shilin Lin, GM Leung, CM Schooling*
- 4714 **Age at onset of puberty and adolescent depressive symptoms: Evidence from Hong Kong's 'Children of 1997' birth cohort** S125  
*Hui Wang, Mary Catherine Schooling, Shi Lin Lin, Grbriel M Leung*
- 4850 **Is early inflammation associated with Attention Deficit/Hyperactivity Disorder?** S125  
*Desiree Silva, Lyn Colvin, Carol Bower*
- 4923 **Cognitive performance in Indian children: Relationship to maternal vitamin D status during pregnancy** S125  
*Sargoor Veena, Ghattu Krishnaveni, Krishnamachari Srinivasan, Kotrangada Thajna, Caroline Fall*
- 4941 **Risk, resiliency, and early child development: a community based study** S126  
*Suzanne Tough, Sheila McDonald, Heather Kehler, Hamideh Bayrampour, Nonie Fraser-Lee*
- 4960 **Maternal pre-pregnancy obesity and child neuropsychological development at 4 years** S126  
*Maribel Casas, Joan Forn, David Martínez, Martine Vrijheid*
- 5023 **Chronic Maternal Stress (CMS) during Early Pregnancy in Sheep Increases Fetal Hormonal Stress Response at 0.7 Gestation** S126  
*Michelle Haase, Florian Rakers, Sven Rupprecht, Rene Schiffner, Schubert Harald, Bischoff Sabine, Nathanielsz Peter, Schwab Matthias*
- 5036 **Oxytocin receptor gene and psychosocial measures associated with mother-infant relationship** S127  
*João Maroco, Jorge Sinal, Adriana Saur, Heloisa Bettiol*
- 4424 **Feeding practices of mothers and/or caregivers of infants below the age of 6 months in four provinces in South Africa** S127  
*Johann Jerling, Sussana M Hanekom, Edelweiss Wentzel-Viljoen*
- 4470 **Assessment of selected labelling practices observed on infant formula (IF) and follow-up formula (FUF) in four developing countries** S127  
*Lara Sweet, Alison Feeley, Rosalyn Ford, Jane Badham, Elizabeth Zehner*
- 4471 **Realities and challenges concerning claims on foods consumed by infants and young children: Assessment and Research in Child Feeding (ARCH)** S128  
*Lara Sweet, Alison Feeley, Rosalyn Ford, Jane Badham, Elizabeth Zehner*
- 4526 **Iron and a mixture of docosahexaenoic and eicosapentaenoic acid supplementation, alone and in combination, affect bioactive lipid signalling and morbidity of iron deficient South African school children** S128  
*Jeannine Baumgartner, Lizelle Zandberg, Philip Calder, Cornelius (Marius) Smuts*

4578	<b>Nutritional characteristics of soy malt beverage developed from blends of sorghum (sorghum bicolor) and soybean (Glycine Max)</b> <i>Gloria Elemo, Babtunde Kosoko, Samuel Owolabi, Bamke Adeyoju</i>	S128
4593	<b>Predominantly night-time feeding predicts infants gaining more weight</b> <i>Tuck Seng Cheng, See Ling Loy, Jia Ying Toh, Yin Bun Cheung, Jerry Kok Yen Chan, Keith Godfrey, Peter Gluckman, Seang Mei Saw, Yap-Seng Chong, Yung Seng Lee, Ngee Lek, Mary Foong-Fong Chong, Fabian Yap</i>	S129
4602	<b>Dietary supplementation with essential micronutrients during early postnatal life partly prevents chronic early-life stress-induced cognitive impairments</b> <i>Eva F. G. Naninck, Kit-Yi Yam, Johannes B. van Goudoever, Torsten Plosch, Paul J Lucassen, Aniko Korosi</i>	S129
4683	<b>Developmental changes in brain LCP accumulation: effect of lowering n6 LA or increasing n3 LCP's in the maternal diet during lactation</b> <i>Annemarie Oosting, Lidewij Schipper</i>	S129
4684	<b>Long-term impact of early feeding with hydrolyzed compared to regular cow's milk formula: the German Infant Nutritional Intervention Study GINI</b> <i>Sibylle Koletzko, Andrea v. Berg, Birgit Filipiak-Pittroff, Holger Schulz, Ute Hoffmann, Elke Link, Maike Sußmann, Markus Schnappinger, Irene Brüske, Marie Standl, Ursula Krämer, Barbara Hoffmann, Joachim Heinrich, Carl-Peter Bauer, Dietrich Berdel</i>	S130
4698	<b>Determinants of breastfeeding practices and success in a multi-ethnic Asian population</b> <i>Wei Wei Pang, Izzuddin M. Aris, Doris Fok, Shu-E Soh, Mei Chien Chua, Sok Bee Lim, Seang-Mei Saw, Kenneth Kwek, Peter D. Gluckman, Keith M. Godfrey, Rob M. van Dam, Michael S. Kramer, Yap-Seng Chong</i>	S130
4699	<b>The Role of Early Nutrition in Programming of Adult Body Composition - the Helsinki Study of Very Low Birth Weight Adults</b> <i>Juho Kuula Kuula, Hanna-Maria Matinolli Matinolli, Petteri Hovi Hovi, Satu Männistö Männistö, Marika Sipola-Leppänen Sipola-Leppänen, Johan G Eriksson Eriksson, Outi Mäkitie Mäkitie, Anna-Liisa Järvenpää Järvenpää, Sture Andersson Andersson, Eero Kajantie Kajantie</i>	S131
4719	<b>Associations between toddlers' food neophobia and dietary habits. A cross-sectional study</b> <i>Nina Cecilie Øverby, Sissel Heidi Helland, Elling Bere</i>	S131
4732	<b>Nutritional and Safety Characteristics of Soymalt Beverage for School Age Children in Low Income Countries</b> <i>Oluwatoyin Oluwole, Gloria Elemo, Babatunde Kosoko, Samuel Owolabi, Banke Adeyoju</i>	S131
4793	<b>Nutritional and Anaemic Status associated with Asymptomatic Malaria in school aged children in Nkassomo, Centre region-Cameroon: Pilot study</b> <i>Clovis Hugues Seumen Tiogang, Clovis Hugues Seumen Tiogang, Francis Zeukeng</i>	S132
4835	<b>Classification of mixed milk-fed infants by infancy dried blood spot lipidomic profiles</b> <i>Philippa Prentice, Animesh Acharjee, Ken K Ong, James Smith, Carlo L Acerini, Ieuan A Hughes, David B Dunger, Albert Koulman</i>	S132
4854	<b>Iodine status and thyroid function of breastfed infants aged 2–4 months and their mothers residing in a South African township</b> <i>Jennifer Osei, Olivia van der Reijden, Susanne Dold, Maria Andersson, Cornelius M Smuts, Jeannine Baumgartner</i>	S132
4950	<b>Effects of Maternal PUFA Status and Breastfeeding on Early Childhood Infection Risks</b> <i>Germaine Jia Min Yong, Wei Wei Pang, Philip C Calder, Keith M Godfrey, Peter D Gluckman, Seang-Mei Saw, Kenneth Kwek, Yap Seng Chong, Mary Foong Fong Chong, Lynette Pei-Chi Shek, Shu E Soh</i>	S133
4954	<b>One carbon metabolism in young Indian girls: use of methionine load test</b> <i>Prachi Katre, Suyog Joshi, Dattaray Bhat Bhat, Neha Gurav, Swati Pandit, Himangi Lubree, Sadanand Naik, Anura Kurpad, Satish Kalhan, Chittaranjan Yajnik</i>	S133
4973	<b>Breast milk cholesterol concentration is independent of LDL-receptor expression in mice</b> <i>Mirjam AM Lohuis, Lidiya G Dimova, Uwe JF Tietge, Henkjan J Verkade</i>	S134
5000	<b>Effect of infant formula with protein content of 1.6g/100kcal fed between 3–12 months on growth at 3 and 5 years of age</b> <i>Eckhard E. Ziegler, David A. Fields, Steven D. Chernausek, Philippe Steenhout, Dominik Grathwohl, Janice M. Jeter, Steven E. Nelson, Nicholas P. Hays, Ferdinand Haschke</i>	S134
5004	<b>Effect of formula derived Advanced Glycation End products on liver antioxidant systems of IUGR piglets</b> <i>Firmin Stéphane, Elmhiri Ghada, Bahi-Jaber Narges, Abdennebi-Najar Latifa</i>	S135

5009	<b>Effect of vitamin B12 and MMN intervention on one carbon (1C) indices in rural Indian children</b> <i>Shradha Gangulikar, Nilam Memane, Deepa Raut, Pallavi Hardikar, Charudatta Joglekar, Pallavi Yajnik, Caroline Fall, Chittaranjan Yajnik</i>	S135
5021	<b>Long term modification of microbiota and antioxidant defenses by high formula derived ages in iugr individuals</b> <i>Ghada Elmbiri, Samir Dou, Thibaut Larcher, Narges Bahi-Jaber, Stephane Firmin, Latifa Abdenebbi-Najar</i>	S135
5120	<b>Impact of infant feeding on growth trajectory patterns from birth to six years: a four cohorts analysis in the Early Nutrition Project</b> <i>Berthold Koletzko, Peter Rzehak, Wendy H. Oddy, Maria Luisa Mearin, Merete Eggesbø, Veit Grote1, Trevor A. Mori, Martina Weber, Lawrence J. Beilin, Rae-Chi Huang</i>	S136
4402	<b>Epigenome-wide association study identifies novel CpG loci associated with perimembranous ventricular septal defects in very young children</b> <i>K.P.J. Wijnands, J. Chen, L. Liang, X. Lin, W.A. Helbing, P.J. van der Spek, A.G. Uitterlinden, R.P.M. Steegers-Theunissen</i>	S136
4435	<b>Pregnancy induces selective changes in the maternal hepatic transcriptome, which may be regulated by DNA methylation</b> <i>Samuel Hoile, Mark Hanson, Karen Lillycrop, Graham Burdge</i>	S137
4457	<b>Impact of maternal endotoxin challenge and omega-3 fatty acid supplementation on ovine placental and fetal hippocampal gene expression</b> <i>Rebecca Fisher-Heffernan, Margaret Quinton, Niel Karrow</i>	S137
4465	<b>Epigenome of circadian clock related genes in pre-eclampsia</b> <i>Caroline van den Berg, Ines Chaves, Emilie Herzog, Sten Willemsen, Bert van der Horst, Régine Steegers-Theunissen</i>	S137
4493	<b>Patterns of epigenome-wide differential DNA methylation in maternal, placental and fetal bio-samples between term low and normal birth weight newborns</b> <i>Fuying Tian, Chuanbo Xie, Xiaozhong Wen, Zhongzheng Niu, Peng Ding, Yanhui He, Jianmiao Lin, Shixin Yuan, Xiaoling Guo, Deqin Jia, Weiqing Chen</i>	S138
4539	<b>Epigenome-wide differentially methylated regions in tissues of placental and fetal origin</b> <i>Emilie M. Herzog, Alex J. Eggink, Sten P. Willemsen, Jun Chen, Anton J.M. Roks, Eric A.P. Steegers, Regine P.M. Steegers-Theunissen</i>	S138
4568	<b>Effects of non-steroid vs steroid-induced preterm birth in sheep on expression of genes involved in insulin secretion and hepatic insulin sensitivity</b> <i>Amita Bansal, Jane Alsweiler, Hui Hui Phua, Kristin Connor, Mike Dragunow, Rob De Matteo, Jane Harding, Frank Bloomfield</i>	S138
4590	<b>Establishing a reference DNA methylome for umbilical cord blood</b> <i>Jane YL Tan, Xinyi Lin, Yonghui Wu, Samantha J Liew, Bhuvaneshwari Shunmuganathan, Kai-Lyn Ng, Yap-Seng Chong, Walter Stunkel, Peter Gluckman, Neerja Karnani, Clara Y Cheong</i>	S139
4643	<b>Early digestive microbiota characteristics are associated to immune-related gene expression and susceptibility to postweaning diarrhea</b> <i>Dou Samir, Gadonna-Widehem Pascale, Hamoudi Dounia, Rome Véronique, Rhazi Larbi, Lakhal Lyes, Bahi-Jaber Narges, Pinon-Quintana Arturo, Guyonvarch Alain, Abdennebi-Najar Latifa, LE Huërou-Luron Isabelle</i>	S139
4650	<b>Whole-transcript expression analysis identifies new candidate genes involved in renal tubular programming after uteroplacental insufficiency in rats</b> <i>Eva Nüsken, Lisa Sprenger, Maria Wohlfarth, Gregor Lippach, Felix Lechner, Jörg Dötsch</i>	S140
4751	<b>Dietary fatty acids as a means of targeted modification of DNA methylation in adults: a proof-of-concept study</b> <i>Graham Burdge, Samuel Hoile, Rebecca Clarke-Harris, Trevor Mori, Lawrence Beilin, Rae-Chi Huang, Karen Lillycrop</i>	S140
4944	<b>Life course-adjusted associations between intrauterine environment and DNA methylation in young adult women of a Jerusalem Perinatal Study sub-cohort</b> <i>Jonathan Huang, David Siscovick, Hagit Hochner, Yechiel Friedlander, Daniel Enquobahrie</i>	S140
4953	<b>Genome wide methylation analysis identifies differentially methylated CpG loci associated with severe obesity in childhood</b> <i>Rae-Chi Huang, Emma S Garratt, Hong Pan, Yong Hui Wu, Elizabeth A Davis, Sheila J Barton, Graham C Burdge, Keith M Godfrey, Joanna D Holbrook, Karen A Lillycrop</i>	S141

4980	<b>Epigenetic marks at birth in dopamine beta-hydroxylase associated with childhood cognitive outcomes in the Southampton Women's Survey Cohort (SWS)</b> <i>Paula Costello, Philip Titcombe, Shelia Barton, Robert Murray, Emma Garratt, Rebecca Clarke-Harris, Graham Burdge, Cyrus Cooper, Hazel Inskip, Catherine Gale, Yap Seng Chong, Karen Lillycrop, Keith Godfrey</i>	S141
4986	<b>Maternal obesity (MO) programs down regulation of expression of hepatic cell cycle genes in the adult male rat offspring liver at postnatal day 110</b> <i>Luis Reyes-Castro, Guadalupe Rodriguez, Claudia Bautista, Claudia Vega, Carlos Ibáñez, Consuelo Lomas, Jeremy Glenn, Laura A Cox, Elena Zambrano</i>	S141
4991	<b>Maternal obesity (MO) programs key genes associated with epigenetic and transcriptional processes in livers of adult 110 day old male rat offspring</b> <i>Guadalupe Rodriguez, Claudia J Bautista, Claudia Vega, Luis Reyes-Castro, Carlos Ibáñez, Consuelo Lomas, Jeremy Glenn, Laura A Cox, Elena Zambrano</i>	S142
4992	<b>Trans-generational epigenetic effects of a maternal high-fat high-sucrose diet on insulin-signaling, lipid and carbohydrate metabolism genes in rat</b> <i>Dan Ramdath, Candace Cuthbert, Aileen Hawke, Jerome Foster</i>	S142
5024	<b>Differential expression of miR138-1 in preeclampsia and limited epigenetic deregulation at the maternal-fetal interface of the placenta</b> <i>Milena N. Leseva, Alexandra M. Binder</i>	S143
5072	<b>Epigenetics in gestational protein restriction intake: miRNA profile expression in offspring heart</b> <i>Heloisa Balan Assalin, José Antonio Rocha Gontijo, Patricia Aline Boer</i>	S143
5081	<b>Regulatory landscape of the human neonatal epigenome</b> <i>Mei-lyn Ong, AL The, C Li, P Hong, L Xinyi, Y Wu, CY Cheong, SM Saw, K Kwek, MS Kobor, KM Godfrey, MJ Meaney, PD Gluckman, YS Chong, JD Holbrook, N Karnani</i>	S143
5104	<b>Endothelial heterogeneity in umbilical arteries of IUGR &amp; LGA fetuses: the role of epigenetic programming of vascular function</b> <i>Bernado Krause, A Caniguair, Carrasco-Wong, I, C Hernandez, E Muñoz, R Uauy, P Casanello</i>	S144
5344	<b>In silico Construction of Personalized DNA Methylation Biomarkers</b> <i>Evan Gatev</i>	S144
4919	<b>Epigenome-wide and transcriptome-wide analyses reveal gestational diabetes is associated with alterations in the Human Leukocyte Antigen complex</b> <i>Alexandra M. Binder, Jessica LaRocca, Corina Lesseur, Carmen Marsit</i>	S145
5034	<b>Impact of pregnancy overweight and depression on the newborn gut microbiome</b> <i>Anita Kozyrskij, Petya Koleva, Ji-Sun Kim, Sarah Bridgman, Angela Chow, David Guttman, Malcolm Sears, Allan Becker, Pius Mandhane, Padmaja Subbarao, Stuart Turvey, James Scott, Child Study Investigators</i>	S145
4491	<b>Maternal health conditions related to the ratio of placental weight and birth weight</b> <i>Filumena Maria da Silva Gomes, Maria Helena Valente, Ana Carolina Novo, Ana Maria de Ulhôa Escobar, Leide Irislayne Macena da Costa Silva, Sandra J. F. E. Grisi</i>	S145
4614	<b>Placental malaria exposure does not affect clinical profile or fitness level in young tanzanian men and women</b> <i>Dirk Lund Christensen, Fannie LaJeunesse-Trempe, Kaushik Ramaiya, Theonest Kahangwa Mutabingwa, Daniel Faurholt-Jepsen, Jannie Nielsen, Allan Vaag, Ib Christian Bygbjerg, Lars Sander Koch</i>	S146
4625	<b>Measures of Placental Growth in Relation to Birth Weight: a Latin America study</b> <i>Grandi Carlos, Ligia Nascente, Ricardo Cavalli, Viviane Cunha Cardoso</i>	S146
4629	<b>Late pregnancy maternal dietary methyl donor supplementation partially reverses effects of placental restriction on cutaneous hypersensitivity</b> <i>Amy Wooldridge, Robert Bischof, Hong Liu, Damien Hunter, Lynne Giles, Karen Kind, Julie Owens, Vicki Clifton, Kathryn Gatford</i>	S146
4632	<b>Placental weight is not altered by early pregnancy - maternal BMI or late pregnancy hyperglycaemia</b> <i>Ilona Goljan, Hema Venkataraman, Nithya Sukumar, Adai kala Antonysunil, Phoebe Brobbey, Harvinder Mann, Ponnusamy Saravanan</i>	S147
4660	<b>Fetal growth under restricted food conditions in live-bearing animals with and without placentas: Implications for the evolution of the placenta</b> <i>Bart Pollux, Bart Pollux, David Reznick</i>	S147



4934	<b>Altered placental transport and immune status following maternal malnutrition has implications for fetoplacental development</b> <i>KL Connor, E Bloise, M Kibschull, E Matysiak, M Lee, R Maganga, SG Matthews, SJ Lye</i>	S147
4963	<b>Regulators of Placental neovascularization in hemangiogenesis</b> <i>Peace Zwane, Sanah Nkadimeng</i>	S148
4975	<b>Placental size relative to birth weight in term deliveries in Japanese population</b> <i>Keiji Suzuki, Eri Imai, Hitoshi Ishimoto, Goki Yahata</i>	S148
4985	<b>Placental expression of cubilin, megalin and VDR is associated with neonatal size and body composition</b> <i>Claire Simmer, Sheila Barton, Hazel Inskip, Keith Godfrey, Mark Hanson, Cyrus Cooper, Nicholas Harvey, Rohan Lewis</i>	S148
5001	<b>Association between placental weight and birth weight in a Brazilian birth cohort</b> <i>Ligia Nascente, Davi Aragon, Ricardo Cavalli, Carlos Grandi, Viviane Cardoso</i>	S149
4455	<b>Characterization of gut microbiota among healthy Chinese infants</b> <i>Mingyang Yuan, Shenghui Li, Yong Guo, Yashu Kuang, Hongwen Deng, Huimin Xia, Xiu Qiu</i>	S149
4996	<b>Early free access to inulin prebiotic alleviates pesticide induced metabolic disorders in adult rat offspring</b> <i>Julie Reygner, Lydia Lichtenberger, Ghada Elmhiri, Narges Bahi-Jaber, Larbi Rhazi, Flore Depeint, Véronique Bach, Hafida Khorsi-Cauet, Latifa Abdennibi-Najar</i>	S150
4998	<b>A prebiotic treatment can prevent pesticide-induced dysbiosis in an artificial human gut model</b> <i>Julie Reygner, Claire Joly Condette, Camille Mayeur, Flore Depeint, Stéphane Delanaud, Véronique Bach, Latifa Abdennebi-Najar, Hafida Khorsi-Cauet</i>	S150
4476	<b>Energy and hormonal composition of breast milk program obese or lean adult rat offspring</b> <i>Vander Silva Alves, Júlio Cezar de Oliveira, Claudinéia Conationi da Silva Franco, Luiz Felipe Barella, Kelly Valério Prates, Tatiane Aparecida Ribeiro, Laize Peron Tófolo, Audrei Pavanello, Rosana Torrezan, Paulo Cezar de Freitas Mathias, Ellen Paula Santos da Conceição, Patrícia Cristina Lisboa, Rosiane Aparecida Miranda</i>	S150
4669	<b>Soya bean isoflavones attenuates early-overnutrition-induced rat obesity</b> <i>Rosana Torrezan, Audrei Pavanello, Ananda Malta, Laize Peron Tófolo, Isabela Peixoto Martins, Claudinéia Conationi da Silva Franco, Rosiane Aparecida Miranda, Júlio Cezar de Oliveira, Kesia Palma Rigo, Paulo Cezar de Freitas Mathias, Tatiane Aparecida Ribeiro</i>	S151
4482	<b>Maternal cafeteria-style diet intake during lactation programs to obesity with hepatic metabolism disruption in rat offspring at adulthood</b> <i>Rodrigo Mello Gomes, Flávio Andrade Francisco, Lucas Paulo Jacinto Saavedra, Rosiane Aparecida Miranda, Solange Marta Franzi de Moraes, Vilma Aparecida Ferreira de Godoi, Paulo Cesar de Freitas Mathias, Claudinéia Conationi da Silva Franco, Jean Carlos Fernando Besson, Júlio Cezar de Oliveira, Maria Raquel Marçal Natali</i>	S151
4652	<b>Maternal high fat diet promotes resistance to the hypolipidemic effect of fish oil in adolescent offspring rats</b> <i>Lorraine Soares de Oliveira, Aline Fonseca Pereira Souza, Aline Cordeiro de Faria Fernandes, George Eduardo Gabriel Kluck, Georgia Correa Atella, Isis Hara Trevenzoli, Luana Lopes de Souza, Carmen Cabanelas Pazos de Moura</i>	S152
5032	<b>Maternal nutritional history impacts on the development of the neonatal enteric nervous system in a rat model</b> <i>Kennedy Hao, Rajka Borojevic, Kaitlyn Chan, Wajiba Gohir, Elyanne Ratcliffe, Deborah Sloboda</i>	S152
4432	<b>Fetal high fat programming reduces hepatic and skeletal muscle insulin receptor immunoreactivity in neonatal rats</b> <i>Zibele Ndlovu, Johan Louw</i>	S153
4433	<b>High fat programming alters islet cell trajectories in neonate, weanling and adolescent rats</b> <i>Charna Chapman, Johan Louw</i>	S153
4459	<b>Methylglyoxal treatment during lactation induces metabolic programming and gluconeogenesis dysfunction in male offspring rats at weaning</b> <i>Flávio Andrade Francisco, Claudinéia Conationi da Silva Franco, Elaine Vieira, Julio Cesar de Oliveira, Kesia Palma Rigo, Latifa Najar, Lucas Paulo Jacinto Saavedra, Luiz Felipe Barella, Rosana Toretzan, Rosiane Aparecida Miranda, Stéphane Firmin, Vander Silva Alves, Paulo Cezar de Freitas Mathias, Rodrigo Mello Gomes</i>	S153
4518	<b>The Effect of Early Life Methyl Donor Supplementation on Obesity Development</b> <i>Teresa M. Reyes</i>	S154
4535	<b>Shunting diabetes: Neonatal metformin treatment protects against obesity onset</b> <i>Claudinéia Franco, Carina Previante, Isabela Martins, Rosiane Miranda, Flávio Francisco, Audrei Pavanello, Rodrigo Gomes, Júlio de Oliveira, Paulo Mathias</i>	S154

- 4545 **Alterations in hippocampal mRNA expression of lambs born to ewes supplemented with fishmeal and challenged with endotoxin** S155  
*Rebecca Fisher-Heffernan, Alison Lee, Margaret Quinton, Timothy Regnault, Niel Karrow*
- 5349 **Perinatal Over- or Undernutrition Programs Adipogenesis: A Common Wnt10b/PPAR $\gamma$  Pathway Mediated via Differential  $\beta$ -Catenin Signaling** S155  
*Mina Desai, Michael G Ross, Guang, Han, Marie H Beall, Robert H Lane*
- 4616 **Detraining enhances high-fat-diet-induced obesity in rats** S155  
*Laize Peron Tófolo, Kesia Palma Rigo, Adriane Barreto Gôngora, Ananda Malta, Lucas Eduardo Cardoso, Audrei Pavanello, Wilson RInaldi, Paulo Cezar de Freitas Mathias*
- 4696 **High-fat programming during lactation leads to vagal hyperactivity and impairs the pancreatic islet function in weanling rats** S156  
*Luiz Felipe Barella, Rosiane A. Miranda, Claudinéia C. S. Franco, Flavio A. Francisco, Vander S. Alves, Laize P. Tófolo, Ananda Malta, Clarice Gravena, Rosana Torrezan, Paulo C. F. Mathias*
- 4874 **Folic acid supplementation during the juvenile pubertal period in mice leads to persistent changes in the stem cell marker OCT-4 and morphology differences in mammary gland structure** S156  
*Karen Lillycrop, Mark Burton, Jinal Shah, Graham Burdge*
- 5075 **Renal micro-RNAs expression and epithelial-to-mesenchymal transition in adult maternal low protein diet programmed male rats** S156  
*LB Sene, GJF Garcia, R Carvalho, J Gontijo, PA Boer*
- 5078 **Stem/progenitor cells and mitosis are reduced in the nephogenic cap of male rat fetus programmed by low protein diet in uteri** S157  
*LB Sene, JAR Gontijo, WR Scarano, PA Boer*
- 5080 **Effects of protein restriction in utero on BNST and amygdala of rats: study of 3D dendritic structure** S157  
*Daniele Braz Torres, Agnes da Silva Lopes, Ana João Rodrigues, Ana Paula Silva-ventura, Carina Soares-Cunha, Barbara Coimbra, José Antônio Rocha Gontijo, Nuno Sousa, Patrícia Aline Boer*
- 4434 **Post-natal low insulin might program lean adult phenotype** S158  
*Aline Amenencia de Souza, Kelly Valerio Prates, Julio Cezar de Oliveira, Rosiane Aarecida Miranda, Laize Tófoli Peron, Kesia Palma-Rigo, Ananda Malta*
- 4453 **Is Prenatal Weight Gain associated with Delivery and Child BMI and Allergy Outcomes? Evidence from a US Birth Cohort (WHEALS)** S158  
*Ganesa Wegienka, Suzanne Havstaad, Christine Cole Johnson, Kimberley Woodcroft, Andrea Cassidy-Bushrow*
- 4580 **Offspring of High-Fat Diet Fed IL-6 Null Mice are Protected Against Early-Onset Overweight and Metabolic Programming of Pro-Asthmatic Phenotype** S158  
*Katharina Dinger, Philipp Kasper, Christina Vohlen, Eva Hucklenbruch-Rother, Ruth Janoschek, Inga Bae-Gartz, Sarah Appel, Jörg Dötsch, Miguel Angel Alejandre Alcazar*
- 4646 **Evidence of early life programming of the melancortin-4 receptor in hypertension arising from maternal obesity** S159  
*Amandine Mullier, Nuria Macais Blasco, Tatiana Novoselova, Li Chan, Joaquim M. Pombo, Clive W. Coen, Nina Balthasar, Lucilla Poston*
- 4681 **Ethnic differences in the cortisol axis in early pregnancy - The PRiDE-HPA study - Protocol and baseline characteristics** S159  
*Hema Venkataraman, Amitha Gopinath, Gail Pounder, Rebecca Reynolds, Ponnusamy Saravanan*
- 4716 **Interaction between maternal weight in pregnancy and offspring birth weight on physical activity in late adulthood: the Helsinki birth cohort study** S160  
*Niko Wasenius, Minna Salonen, Mikaela von Bonsdorff, Eero Kajantie, Johan G. Eriksson*
- 4856 **Fetal size and growth and the association with parental anthropometry in a multi-ethnic population** S160  
*Line Sletner, Anne Karen Jennum, Svein Rasmussen, Siri Vangen*
- 4861 **Preconception maternal helminth infection influences offspring gut microbiome and immunity** S160  
*Donald Nyangabu, Heather Jaspán, William Horsnell, Matthew Darby, Jerome Wendoh, Enock Havyarimana, Katie Viljoen*
- 4918 **Lower maternal concentrations of nicotinamide and related metabolites in late pregnancy are associated with offspring atopic eczema at age 12 months** S161  
*Sarah El-Heis, Sarah Crozier, Sian Robinson, Nick Harvey, Cyrus Cooper, Hazel Inskip, Keith Godfrey*

4946	<b>The importance of the first 1000 days - setting trajectories for future population wellbeing. Evidence from Growing Up in New Zealand</b> <i>Susan Morton, Polly Atatoa Carr</i>	S161
4984	<b>Relationship of maternal hormones with glucose levels and beta-cell function of the offspring in the neonatal and early postnatal periods</b> <i>Marketa Toman, Nigel John Crowther, Franco Guidozzi, Paul Rheeder</i>	S161
5007	<b>Relationship between maternal glucose and hormone levels and neonatal size in the offspring of healthy African urban pregnant women</b> <i>Marketa Toman, Franco Guidozzi, Nigel John Crowther</i>	S162
5012	<b>Relationship of flow of uterine artery in the second trimester of pregnancy with neurodevelopment the second year of life</b> <i>Ricardo Cavalli, Marcos Okido, Marco Barbieri, Heloisa Bettiol, Cristina Del Ben, Viviane Cardoso</i>	S162
5014	<b>Adaptation of the Uterine Vasculature after Chronic Maternal Stress (CMS) During Late Pregnancy Protects the Fetus from Acute Stress Effects</b> <i>Rakers Florian, Haase Michelle, Sabine Bischoff, Rene Schiffner, Rupprecht Sven, Schubert Harald, Nathanielsz Peter, Matthias Schwab</i>	S162
5074	<b>Fetal programming by maternal smoking exposure: kidney structure and function in adult offspring</b> <i>DB Block, FF Mesquita, IP de Lima, PA Boer, JA Gontijo</i>	S163
5079	<b>Early protein restriction alters behavior and hippocampal cellular phenotype that are recovered by enriched environment exposure</b> <i>Gabriel Boer Grigoletti, Agnes da Silva Lopes, Patricia Aline Boer, José Antônio Rocha Gontijo</i>	S163
4475	<b>Bromocriptine treatment to rats pups at the beginning of lactation programs for thyroid dysfunction at adulthood</b> <i>Janaina Carvalho, Elaine Oliveira, Patricia Lisboa</i>	S163
4485	<b>Pup Morphometry as a Pointer of Fructose-Induced Foetal Programming</b> <i>Opeyemi Akindele, Yinusa Raji</i>	S164
4510	<b>Impact of maternal sleep deprivation on reproductive functions in male offspring of wistar rats</b> <i>Opeyemi Akindele, Olufadekemi Kunle-Alabi, Yinusa Raji</i>	S164
4538	<b>Maternal Exposure to Dexamethasone during Pregnancy and Lactation Programmes Reproductive Functions in Male Offspring of Wistar Rats</b> <i>Yinusa Raji, Sikirullahi O Jeje</i>	S164
4541	<b>Late pregnancy malnourishment programs rat adult offspring to high sensitivity caloric abundance</b> <i>Júlio Cezar de Oliveira, Andrei Pavanello, Carina Previante, Isabela Peixoto Martins, Tatiane Aparecida da Silva Ribeiro, Paulo Cezar de Freitas Mathias, Ananda Malta</i>	S165
4554	<b>Exploring the thrifty gene theory: Calorie-restriction at begin of lactation programs rats to be lean and do not became obese by high-fat diet at adulthood</b> <i>Andrei Pavanello, Rosiane Aparecida Miranda, Carina Previante, Ananda Malta, Tatiane Aparecida Ribeiro, Paulo Cezar de Freitas Mathias, Júlio Cezar de Oliveira</i>	S165
4556	<b>Intrauterine growth restriction (IUGR) is associated with impairment of memory related to food and differential brain activation in response to palatable food images in adolescents</b> <i>Amanda Brondani Mucellini, Roberta Dalle Molle, Danitsa Marcos Rodrigues, Roberta Sena Reis, Tânia Diniz Machado, Luciano Minuzzi, Alexandre Rosa Franco, Augusto Buchweitz, Andressa Bortoluzzi, Rudineia Toazza, Giovanni Abrahão Salum Júnior, Gisele Gus Manfro, Patricia Pelufo Silveira</i>	S166
4638	<b>Prenatal Synthetic Glucocorticoid Programs Juvenile Behavior and Stress Response: Transgenerational Paternal Transmission</b> <i>Vasilis Moisiadis, Andrea Constantino, Alisa Kostaki, Stephen Matthews</i>	S166
4639	<b>The Effect of Prolonged Embryo Culture on Subsequent Development and Postnatal Health in a Mouse Model</b> <i>Anan Aljhdali Aljhdali, Ili Airina Raja, Miguel Velazquez, Bhav Sheth, Neil Smyth, Tom Fleming</i>	S166
4644	<b>Low glycaemic Index Diet and Physical Activity in Obese Pregnant Rats Does Not Improve Metabolic Profile of 3-Month Old Offspring</b> <i>EA Domfeh, N Maicas Blasco, E Richardson, AM Samuelsson, J Pombo, PD Taylor, L Poston</i>	S167

- 4668 **Varying dietary cholesterol exposure in the suckling period programs the intestinal cholesterol absorption during adulthood in mice** S167  
*Lidiya G. Dimova, Jan Freark de Boer, Henkjan J. Verkade, Uwe J.F. Tietge*
- 4990 **Maternal Obesity (MO) increases adult rat offspring liver oxidative stress (ROS) and programs mitochondrial electron transport chain (ETC) genes** S168  
*Abulaitijiang Tuerxun, Claudia Vega, Claudia J Bautista, Luis Reyes-Castro, Guadalupe Rodriguez, Carlos Ibáñez, Consuelo Lomas, Cun Li, Laura A Cox, Jeremy Glenn, Elena Zambrano*
- 4441 **Postnatal growth in preterm infants and later health outcomes: a systematic review** S168  
*Ken K Ong, Kathy Kennedy, Euridice Castaneda Gutierrez, Stewart Forsyth, Keith Godfrey, Berthold Koletzko, Marie E Latulippe, Susan E Ozanne, Ricardo Rueda, Marieke Schoemaker, Eline M van der Beek, Stef van Buuren, Mary Fewtrell*
- 4456 **Re-sampling Method for the Construction of Twin-Specific Birth Weight References: A New Concept** S169  
*Xiu Qiu, Yu Liu, Guangjian Liu, Jianrong He, Xiaoyan Xia, Ping Wang, Weidong Li, Hongwen Deng, Huimin Xia*
- 4467 **Adherence to 10 dietary principles and risk of preterm delivery - a study performed in the Norwegian Fit for Delivery Study** S169  
*Elling Bere, Linda Reme Sagedal, Ingvild Vistad, Nina Cecilie Øverby*
- 4469 **Health-related quality of life among adults born preterm -the Helsinki Study of Very Low Birth Weight Adults (HeSVA)** S169  
*Petteri Hovi, Anu-Katriina Pesonen, Katri Räikkönen, Anna-Liisa Järvenpää, Johan G. Eriksson, Sture Andersson, Eero Kajantie*
- 4516 **The effect of protein and energy intake in the first 28 days of life on the growth velocity of extremely low birth weight infants** S170  
*Shilpee Raturi, Charles Qi Shi Cheng, Pratibha Agarwal, Victor Samuel Rajadurai, Lu Ming Shi*
- 4524 **Early growth after preterm birth and neurocognitive functioning in adulthood** S170  
*Kati Heinonen, Marius Lahti, Jari Lahti, Sture Andersson, Aulikki Lano, Timo Vartiainen, Dieter Wolke, Eero Kajantie, Johan Eriksson, Katri Räikkönen*
- 4598 **Objectively measured physical activity in young adults born preterm - the ESTER Study** S170  
*Marjaana Tikanmäki, Hanna-Maria Matinolli, Tuija Tammelin, Nina Kaseva, Marika Sipilä-Leppänen, Harto Hakonen, Ulf Ekelund, Johan G Eriksson, Marjo-Riitta Järvelin, Marja Väärämäki, Eero Kajantie*
- 4606 **Aged female mice suffering from intrauterine growth restriction show increased plasma free fatty acids and endoplasmic reticulum stress in the adipose tissue** S171  
*Violeta Stojanovska, Neha Sharma, Josee Plantinga, Silco Scherjon, Hubert Schorle, Torsten Plosch*
- 4611 **Paternal grandparental mortality association with grandchildren's birth-weight: Mortality follow-up, Lifeways Cross-Generation Cohort Study, Ireland** S171  
*Karien Viljoen, Aakash Shrivastava, Celine Murrin, John O'Brien, Cecily Kelleher*
- 4662 **TNF-2 gene -308 polymorphism among women with preterm delivery from two Brazilian cohorts with different socioeconomic profiles (BRISA Birth Cohort, Brazil)** S172  
*Perla Lopes de Freitas, Ricardo Carvalho Cavalli, Antonio Augusto Moura da Silva, Heloisa Bettiol, Marco Antonio Barbieri, Viviane Cunha Cardoso, Rosângela Fernandes Lucena Batista, Silma Regina Ferreira Pereira*
- 4680 **Cardiac Akt/mTOR-signaling is decreased in rat fetuses affected by uteroplacental insufficiency - survival at the cost of impaired heart development?** S172  
*Felix Lechner, Eva Nüsken, Nava Mehdiani, Gregor Lippach, Maria Wohlfarth, Jörg Dötsch*
- 4685 **Supplementation of breast milk and development of preterm infants after hospital discharge: a randomized clinical trial** S173  
*Fernando Lamy Filho, Roxana Desterro e Silva da Cunha, Eremita Val Rafael, Zeni Carvalho Lamy, André Luiz Guimarães Queiroz*
- 4790 **Excessive left ventricular myocardial growth directly after preterm birth** S173  
*Ulf Schubert*
- 4841 **Neonatal antibiotics in preterm infants and risk of allergic diseases later in life** S173  
*Annelies van Zwol, Elisabeth Westerbeek, Linda Carstens*
- 4888 **Gender differences in cord blood methylation profiles associated with birth weight and gestational age in a Brazilian cohort** S174  
*Alexandra Brentani, Mariana Maschietto, Laura Bastos, Henrique Vieira, Angelica Baumont, Guilherme Polanczyk, Sandra Grisi, Euripedes Miguel, Carlos Alberto Moreira, Rossana Pulcinelli, Ana maria Escobar, Gunther Fink*

4926	<b>Secular trends of low birthweight and macrosomia and related maternal factors in Beijing, China: a longitudinal trend analysis</b> <i>Fangfang Chen, Wenpeng Wang, Hongbo Dong, Jie Mi</i>	S174
4929	<b>Very preterm fetal responses to intraamniotic LPS are characterised by systemic IL-6 signalling and cellular proliferation in a sheep model of pregnancy</b> <i>Matthew Kemp, Timothy Molloy, Haruo Usuda, Eleanor Woodward, Yuichiro Miura, Matthew Payne, Demelza Ireland, Alan Jobe, Subas Kallapur, Sarah Stock, Brad Spiller, John Newnham, Masatoshi Saito</i>	S174
4932	<b>Consistency between different determinations of gestational age</b> <i>Kuruwilla Joseph Abraham, Ricardo Carvalho Cavalli, Viviane Cunha Cardoso, Heloisa Bettiol, Marco Antonio Barbieri, Manoel Romeu Gutierrez, Antonio Augusto Moura da Silva, Vanda Maria Ferreira Simões</i>	S175
4962	<b>Continuing Low Rates of Obesity in young Australian Aboriginal adults born Growth Restricted</b> <i>Gurmeet Singh, Belinda Davison, Susan Sayers</i>	S175
5005	<b>Cumulative pregnancy anxiety and preterm birth: the role of resiliency factors</b> <i>Suzanne Tough, Sheila McDonald</i>	S175
5026	<b>Intrauterine growth restriction (IUGR) is associated with impairment of memory related to food and differential brain activation in response to palatable food images in adolescents</b> <i>Amanda Brondani Mucellini, Roberta Dalle Molle, Danitsa Marcos Rodrigues, Roberta Sena Reis, Tânia Dimiz Machado, Luciano Minuzzi, Alexandre Rosa Franco, Augusto Buchweitz, Andressa Bortoluzzi, Rudineia Toazza, Giovanni Abrahão Salum Júnior, Gisele Gus Manfro, Patrícia Pelúfo Silveira</i>	S175
5028	<b>Fetal growth interacts with multilocus genetic score reflecting dopamine signaling capacity and predicts spontaneous palatable food intake in children</b> <i>Patrícia Pelúfo Silveira, Hélène Gaudreau, Leslie Atkinson, Alison S. Fleming, Marla B. Sokolowski, Meir Steiner, James L. Kennedy, Laurette Dubé, Robert D. Levitan, Michael J. Meaney</i>	S176
5102	<b>Comparable levels of ENOS in umbilical and systemic arteries of IUGR-derived endothelial cells of guinea pig fetuses at term</b> <i>Bernado Krause, Emilio A. Herrera, Farah Díaz, Esteban Figueroa, Cristián Villanueva, Marcelo Fariás, Paola Casanello</i>	S176
5103	<b>Foetal macrosomia resulting from high pre-gestational weight in guinea pig dams associates with changes in vascular function</b> <i>Bernardo Krause, Herrera EA, Díaz F, Fariás M, Uauy R, Casanello P</i>	S177
4515	<b>Inflammatory markers mediating pregnant secondhand smoke exposure causing full-term low birth weight</b> <i>Zhongzheng Niu, Chuanbo Xie, Xiaozhong Wen, Fuying Tian, Peng Ding, Yanhui He, Jianmiao Lin, Shixin Yuan, Xiaoling Guo, Deqin Jia, Weiqing Chen</i>	S177
4540	<b>Changes in vegetables, fruits and berries consumption habits from pre-pregnancy to early pregnancy among Norwegian women</b> <i>Elling Bere, Linda Reme Sagedal, Ingvild Vistad, Nina Cecilie Øverby</i>	S178
4542	<b>A comparative analysis of adolescent nutrition knowledge and socioeconomic status at an urban versus a peri-urban school in Hilton, South Africa</b> <i>Frederick Veldman, Susanna Kassier</i>	S178
4555	<b>Sitting time in pregnancy is associated with greater gestational weight gain, depressive symptoms and risk of gestational diabetes</b> <i>Nithya Sukumar, Jacqueline Farmer, Hema Venkataraman, Alexander Maraveyas, Alex Shields, Ponnusamy Saravanan</i>	S178
4559	<b>Is smoking during pregnancy adversely affecting offspring bone development?</b> <i>Sharon Brennan-Olsen, John Wark, David Moloney, Kathy Bennett, Julie Pasco</i>	S179
4571	<b>Alcohol consumption, smoking and physical exercise before and during pregnancy</b> <i>Ana Maria Escobar, Murilo Wadt, André Covic, Carolina Hofmeister Mansu, Filumena Gomes, Maria Helena Valente, Grisi Sandra, Joana Abucham Ribeiro</i>	S179
4581	<b>Pregnancy planning status and its association with maternal characteristics and health during pregnancy</b> <i>Tuck Seng Cheng, See Ling Loy, Yin Bun Cheung, Jerry Kok Yen Chan, Keith Godfrey, Peter Gluckman, Kenneth Kwek, Seang Mei Saw, Yap-Seng Chong, Yung Seng Lee, Fabian Yap, Ngee Lek</i>	S179
4595	<b>Does timing of energy intake affect glucose intolerance during pregnancy?</b> <i>See Ling Loy, Tuck Seng Cheng, Marjorelee T. Colega, Yin Bun Cheung, Keith Godfrey, Peter Gluckman, Kenneth Kwek, Seang Mei Saw, Yap-Seng Chong, Ngee Lek, Fabian Yap, Mary Foong-Fong Chong, Jerry Kok Yen Chan</i>	S180



4601	<b>A lifestyle intervention including an exercise program helps women increase physical activity level in pregnancy</b> <i>Birgitte Sanda, Linda Reme sagedal, Ingvild Vistad, Hilde Lohne Seiler, Lene Anette Hagen Haakstad, Monica Klungland Torstveit</i>	S180
4609	<b>Effect of regular exercise on blood pressure in normotensive pregnant women. A randomized controlled trial</b> <i>Lene Haakstad, Elisabeth Edvardsen, Kari Bø</i>	S181
4648	<b>Sedentary behaviour with higher Socio-economic Status (SES) in South Asians in UK - A potential contributor of adverse metabolic risk? Evidence from the PRiDE study</b> <i>Hema Venkataraman, Selvin Selvamoni, Renjit Kurian, Rajni Vekaria, Nithya Sukumar</i>	S181
4659	<b>Soft drink consumption during pregnancy as a risk factor for large for gestational age birth: BRISA Birth Cohort, Brazil</b> <i>Janaina Maiana Abreu Barbosa, Antonio Augusto Moura da Silva, Maria Teresa Seabra S B Alves, Vanda Maria Ferreira Simões, Rosangela Fernandes Lucena Batista, Marco Antonio Barbieri, Heloisa Bettiol, Ricardo Carvalho Cavalli, Viviane Cunha Cardoso, Cecilia Claudia Costa Ribeiro</i>	S181
4664	<b>Labor physical activity during pregnancy and its association with adverse perinatal outcomes (BRISA birth cohort, Brazil)</b> <i>Adriana Sousa Rego, Maria Teresa Seabra S B Alves, Rosangela Fernandes Lucena Batista, Cecilia Claudia Costa Ribeiro, Heloisa Bettiol, Viviane Cunha Cardoso, Marco Antonio Barbieri, Antonio Augusto Moura da Silva</i>	S182
4709	<b>The effects of maternal risk exposure during pregnancy and infant birth weight: A South African perspective</b> <i>Wiedaad Slemming, Braimoh Bello, Linda Richter, Haroon Saloojee</i>	S182
4711	<b>Nicotine exposure in early pregnancy: mid-gestational growth restriction correlates with differential mRNA and microRNA expression</b> <i>Lisa Yamada, Elizabeth Mason, Christine Wells, Suyinn Chong</i>	S182
4881	<b>Parental smoking, childhood household living conditions and adult respiratory health: findings from a multi-ethnic UK sample</b> <i>Lauren Sherar, Tom Norris, Mark Orme, Dale Eslinger, Andrew Kingsnorth, Sally Singh, Michael Steiner, Mike Morgan</i>	S183
4942	<b>A longitudinal analysis of maternal feeding practices and the diet quality of young children</b> <i>Megan Jarman, Jane Ogden, Rhonda Bell, Hazel Inskip, Wendy Lawrence, Janis Baird, Cyrus Cooper, Sian Robinson, Mary Barker</i>	S183
4970	<b>Exercise only early in life in rats programs a healthier phenotype in adulthood</b> <i>Filippe Falcao-Tebas, Evelyn Marin, Chelsea Arceri, Jujiao Kuang, David Bishop, Glenn McConell</i>	S184
4997	<b>The relationship between physical activity and glucose tolerance amongst pregnant women living in Soweto, South Africa</b> <i>Tasneem Khan, Estelle Watson, Shelley Macaulay</i>	S184
5030	<b>Identifying opportunities to increase fruit and green leafy vegetable consumption in India using value chain analysis</b> <i>Sarah Kehoe, Kalyanaraman Kumaran, Ramesh Potdar, Aulo Gelli, Harsha Chopra, Caroline Fall</i>	S184
5082	<b>Dietary habits and eating practices and how they associate with obesity in black South African adolescents undergoing a health transition</b> <i>Modiehi Sedibe, PT Pisa, A Feeley, TM Pedro, K Kahn, SA Norris</i>	S184
5217	<b>The Analysis of Intake and Effects of Trans fats in relation to the risk of Cardiovascular Disease</b> <i>Idowa Joseph Olaniyi, Carole L. Marshall</i>	S185
4575	<b>How does the policy context affect the implementation of the national Healthy Start Workforce Project (HSWP)?</b> <i>Anne Jaquier, Donna Congalton, Mary Barker, Wendy Lawrence, Christine Vogel</i>	S185
4627	<b>Formative research for the development of an intervention to optimise body composition in early childhood</b> <i>Catherine Draper, Simone Tomaz, Matthew Stone, Shane Norris, Trina Hinkley, Rachel Jones</i>	S186
4903	<b>LifeLab: Exploring the link between socioeconomic status and alcohol awareness and consumption in secondary school students</b> <i>Kathryn Woods-Townsend, Emma Vaccari, Ben Ainsworth, Lisa Bagust, Hannah Davey, Donna Lovelock, Marcus Grace, Janice Griffiths, Keith Godfrey, Mark Hanson, Hazel Inskip, Julia Sinclair</i>	S186
4931	<b>How are the IYCF knowledge and practices where the voluntary health workers (VHW) had received nutrition education 2 years ago?</b> <i>Dwi Nastiti Iswarawanti, Siti Muslimatun, Jill A. Dewayanti, Indriani A.A.S Oka</i>	S187

4993	<b>A qualitative investigation of the life experiences of substance abusing women in Cape Town</b> <i>Nwabisa Bikitsba, Anita Padmanabhanunni</i>	S187
5413	<b>Training healthcare personnel for a client centred approach to healthy lifestyle change in Malaysia</b> <i>Amanda Villiers-Tuthill, Jutta Kloppenborg Heick Skau, Awatef Binti Amer Nordin, Siti Irma Fadhilah Binti Ismail, Zubaidah Jamil Osman, Mimi Karim</i>	S187
5412	<b>Promoting pre-conception health: An intervention mapping approach</b> <i>Julius Cheah, Shane A Norris, Aswir Abd Rashed, Vibeke Vinding, Jutta KH Skau, Regien Biesma, Priya Matzen, Jens Aagaard-Hansen, Mark Hanson</i>	S188
4472	<b>Practical Approach towards reduction of low birth weight as a measure to achieve MDG goal 4</b> <i>Ramesh Potdan</i>	S188
5418	<b>Perceptions, attitudes and knowledge of diabetes and preconception health in young couples in Malaysia</b> <i>Awatef Binti Amer Nordin, Ramli Zainal, Khatijah Abdullah, Julius, Cheah Chee Ho, Regien Biesma, Priya Matzen, Jens Aagaard-Hansen, Mark Hanson, Shane A Norris, Jutta KH Skau</i>	S188
5016	<b>Mathematical model of pancreatic cell fate decisions, implication for the development of beta cells</b> <i>Caïdi Aziza, Firmin Stéphane, Bréant Bernadette, Blondeau Bertrand, Abdennebi-Najar Latifa, Bahi-Jaber Narges</i>	S189
4691	<b>Anthropology, DOHaD, and Refurbished Retrospective Data Sources</b> <i>Celeste Giordano, Daniel Benyshek</i>	S189
4715	<b>A Literature review translates current nutrition/physical activity research findings to support a maternal and infant health workforce education programme</b> <i>Caroline Gunn, Jackie Gunn, Anne Jaquier</i>	S190
4910	<b>Pre-service science teachers' understanding of epigenetics and their views on the implications of epigenetics for society, everyday life and education</b> <i>Lisa Bagust, Andri Christodoulou, Kath Woods-Townsend, Hannah Davey, Donna Lovelock, Karen Lillycrop, Janice Griffiths, Keith Godfrey, Mark Hanson, Hazel Inskip, Marcus Grace</i>	S190
5047	<b>Understanding the Epigenetic Origins of Congenital Heart Disease May Lead to its Control</b> <i>Rik De Decker, Elmarie van der Merwe</i>	S190
4414	<b>The Intergenerational Effects on Birth Weight, São Paulo, Brazil</b> <i>Leide Irislayne Macena da Costa Silva, Filumena Maria da Silva Gomes, Maria Helena Valente, Ana Maria de Ulhôa Escobar, Alexandra Valéria Maria Brentani, Sandra J. F. E. Grisi</i>	S191
4666	<b>MAGAs, Pregnancy Disorders &amp; miRNAs in DOHaD</b> <i>William Johnson, Edward Stenroos, Steven Buyske, Zachary Cartun</i>	S191
4708	<b>Exploring women's fear of childbirth in a high maternal mortality setting on the Arabian Peninsula</b> <i>Annica Kempe, Töres Theorell, Fatoom Noor-Aldin Alwazer, Samera Taher, Kyllike Christensson</i>	S191
5017	<b>Socio-economic outcomes for adult men born with hypospadias; a register-based study</b> <i>Anna Skarin Nordenvall, Louise Frisén, Anna Nordenström, Catarina Almqvist Malmros, Agneta Nordenskjöld</i>	S192
4549	<b>Broad-spectrum Antibiotics Increases the Risk of Childhood Type 1 Diabetes in Offspring Delivered by Cesarean Section</b> <i>Tine Dalsgaard Clausen, Thomas Bergholt, Olivier Bouaziz, Rolf Magnus Arpi, Steen Rasmussen, Frank Eriksson, Niels Keiding, Ellen Løkkegaard</i>	S192
4443	<b>How and why do maternal cortisol profiles vary in a time dependent manner across the peri-conceptual period?</b> <i>Katrina Salvante, Leilei Zeng, Chelsea Pyles, Huiting MA, Jason Blais, Cindy Barha</i>	S192
4463	<b>Mother's marital status and offspring's health in adult life. The Helsinki Birth Cohort Study 1934–1944</b> <i>Minna K. Salonen, Johan G. Eriksson, Eero Kajantie</i>	S193
4495	<b>An invitation to a fetal perspective - a new way of understanding fetal lifetime that leads to new concepts and new perspectives</b> <i>Ann-Jeanett</i>	S193
4610	<b>Intergenerational effect of high salt intake during pregnancy</b> <i>Maria Angélica Peres, Luzia S Furukawa, Ivone B Oliveira, Joel Heimann</i>	S193
4618	<b>Health can be programmed? Low Intensity exercise during pregnancy protects offspring from metabolic syndrome induced by early overnutrition</b> <i>Audrei Pavanello, Tatiane Aparecida Ribeiro, Ananda Malta, Laize Peron Tôfolo, Júlio Cezar de Oliveira, Luiz Felipe Barella, Rodrigo Mello Gomes, Paulo Cezar de Freitas Mathias</i>	S194

4945	<b>The Effect of Maternal Seasonality on Pregnancy Weight Gain and Birthweights in a Canadian Cohort</b> <i>Robert Levitan, Alissa Moody, Stephen Matthews, Stephen Lye, Alan Bocking</i>	S194
4422	<b>How has fetal health changed in the very long run? Western Europe and North America, 1700 to the present</b> <i>Eric Schneider</i>	S194
4789	<b>Teenage pregnancy outcomes in Colombia</b> <i>Julio Reina, Luis Bravo</i>	S195
4466	<b>Low levels of prenatal vitamin-D and increased risk of adult schizophrenia. Results from a societal experiment in Denmark. The D-tect study</b> <i>Joachim Knop, Kristina Ranc</i>	S195
4494	<b>Prenatal Docosa-hexaenoic acid supplementation and offspring's health outcomes: a systematic review</b> <i>Pallavi Nair, Suganthi Jaganathan, Garima Rautela, Shivangi Sharma, Poornima Prabhakaran, Malvika Saxena</i>	S195