

Dr. Isabelle Herter-Aeberli

Dr of Sciences ETHZ / Dipl. LM Ing ETHZ



Date of birth: 01.07.1978

Nationality: Swiss

Work experience and steps of education

- since 03.2013 **Senior scientist (Oberassistentin) ETH Zurich**, Human Nutrition Laboratory
Director of studies for MAS and CAS programs in Nutrition and Health at ETH, teaching responsibilities (including supervision of BSc, MSc and PhD theses) and scientific research including publication of results (clinical trials including iron absorption studies and randomized controlled trials)
- 04.2012 – 02.2013 **Post doctoral fellow and lecturer, ETH Zurich**, Human Nutrition Laboratory and **University Hospital Zürich**, Clinic for Endocrinology, Diabetes and Clinical Nutrition
Scientific research (mainly clinical trials) and teaching responsibilities
- 02.2011 – 03.2012 **Senior Research fellow, St. John's Research Institute, Bangalore, India**
Fellowship for advanced researchers, Swiss National Science Foundation Project: Double burden of obesity and micronutrient deficiency
Design, implementation, data analysis and publication for several clinical trials
- 06.2008 – 01.2011 **Post doctoral fellow, University Hospital Zürich**, Clinic for Endocrinology, Diabetes and Clinical Nutrition
Project: Effects of dietary fructose on glucose and lipid metabolism in healthy human subjects (clinical intervention study, randomized controlled trial)
Coordination and implementation of the clinical trial
- 06.2008 – 01.2011 **Post doctoral fellow and lecturer, ETH Zürich**, Human Nutrition Laboratory
Scientific research (Project: Interactions between obesity and iron deficiency (dietary intake, iron absorption, and mechanistic studies), childhood obesity (observational studies and clinical intervention study using antioxidant treatment (RCT)) and teaching responsibilities
- 09.2005 – 12.2008 **School for Nutritionists, University Hospital Zürich**
Lecturer in Food Science
- 02.2004 – 05.2008 **PhD thesis, ETH Zürich Human Nutrition Laboratory**
Project: Nutritional risk factors for the metabolic syndrome in overweight children
Design, implementation, analysis and publication of several clinical and observational studies.
- 11.2003 – 08. 2004 **Certificate of Teaching Ability, ETH Zürich**
- 10.1998 – 10.2003 **MSc in Food Science and Nutrition (Eidg. dipl. Lebensmittelingenieur), ETH Zürich, Department of Food Science and Nutrition**; First and second preliminary examinations:

Thesis supervision

PhD students: 5 theses completed (3 main supervisor, 3 co-supervisor), 2 ongoing (main supervisor)

MSc/MAS students: 22; BSc students: 16

Academic Honors, Fellowships

EASO Young Investigator Award in Clinical Research (2011)

Fellowship for Advanced Researchers, Swiss National Science Foundation (2011)

Medal of the ETH Zürich for outstanding PhD Thesis (2008)

Nestlé Ernährungspreis 2007 for the work 'Fructose intake is a predictor of LDL particle size in overweight schoolchildren'

Servier Forschungspreis 2006 im Bereich Endokrinologie und Diabetologie' for the work 'Dietary intakes of fat and antioxidant vitamins are predictors of subclinical inflammation in overweight Swiss children'

List of publications of Dr. Isabelle Herter-Aeberli

A full list of publications can also be accessed under: <https://orcid.org/0000-0003-0134-6217>

Original articles

2020

Stoffel NU, El-Mallah C, **Herter-Aeberli I**, Bissani N, Wehbe N, Obeid O, Zimmermann, MB (2020) The effect of central obesity on inflammation, hepcidin, and iron metabolism in young women. *Int J Obes*, DOI 10.1038/s41366-020-0522-x

2019

Buerkli, S, Ndiaye, NF, Cercamondi, CI, **Herter-Aeberli, I**, Moretti, D, and Zimmermann, MB (2019) Asymptomatic Helicobacter Pylori Infection in Preschool Children and Young Women Does Not Predict Iron Bioavailability from Iron-Fortified Foods. *Nutrients*, DOI 10.3390/nu11092093

Herter-Aeberli, I, Graf, C, Vollenweider, A, Haberling, I, Srikanthan, P, Hersberger, M, Berger, G, and Mathis, D (2019) Validation of a Food Frequency Questionnaire to Assess Intake of n-3 Polyunsaturated Fatty Acids in Switzerland. *Nutrients*, DOI 10.3390/nu11081863

Herter-Aeberli, I, Osuna, E, Sarnovska, Z, and Zimmermann, MB (2019) Significant Decrease in Childhood Obesity and Waist Circumference over 15 Years in Switzerland: A Repeated Cross-Sectional Study. *Nutrients*, DOI 10.3390/nu11081922

van der Reijden, OL, Galetti, V, Bürki, S, Zeder, C, Krzystek, A, Haldimann, M, Berard, J, Zimmermann, MB, **Herter-Aeberli, I** (2019) Iodine bioavailability from cow's milk: a randomized, crossover balance study in healthy iodine-replete adults *Am J Clin Nutr* 110, 102-110 DOI 10.1093/ajcn/nqz092

van der Reijden, OL, Galetti, V, **Herter-Aeberli, I**, Zimmermann, MB, Zeder, C, Krzystek, A, Haldimann, M, Barmaz, A, Kreuzer, M, Berard, P, Schlegel, P (2019) Effects of feed iodine concentrations and milk processing on iodine concentrations of cow's milk and dairy products, and potential impact on iodine intake in Swiss adults. *Br J Nutr* DOI 10.1017/S0007114519001041

Schättin, A, Baier, C, Mai, D, Klamroth-Marganska, V, **Herter-Aeberli, I**, de Bruin, ED (2019) Effects of exergame training combined with omega-3 fatty acids on the elderly brain: a randomized double-blind placebo-controlled trial. *BMC Geriatrics* DOI 10.1186/s12877-019-1084-4

2018

Anderson, M, Hunziker, S, Fingerhut, R, Zimmermann, MB, **Herter-Aeberli, I** (2018) Effectiveness of increased salt iodine concentration on iodine status: A longitudinal cross-sectional national study in Switzerland. *Eur J Nutr* DOI 10.1007/s00394-019-01927-4

Jeroense, FMD, Michel, L, Zeder, C, **Herter-Aeberli, I***, Zimmermann, MB* (2018) Consumption of galacto-oligosaccharides increases iron absorption from ferrous fumarate: a stable iron isotope study in iron-depleted young women. *J Nutr* DOI 10.1093/jn/nxy327 *shared last-authorship

van der Reijden, OL, Galetti, V, Hulmann, M, Krzystek, A, Haldimann, M, Schlegel, P, Manzoocchi, E, Berard, J, Kreuzer, M, Zimmermann, MB, and **Herter-Aeberli, I** (2018) The main determinants of iodine in cows' milk in Switzerland are farm type, season and teat dipping. *Br J Nutr* 119, 559-569, DOI 10.1017/S0007114517003798

Cepeda-Lopez, AC, Zimmermann, MB, Wussler, S, Melse-Boonstra, A, Naef, N, Mueller, S, Toigo, M, **Herter-Aeberli, I** (2018) Greater blood volume and Hb mass in obese women quantified by the carbon monoxide-rebreathing method affects interpretation of iron biomarkers and iron requirements. *Int J Obes*, epub Jun 15 2018, DOI: 10.1038/s41366-018-0127-9

Cercamondi, CI, Fischer, MM, Worku, TGH; Wyss, N, **Herter-Aeberli, I**, Zimmermann, MB, Egli, IM, Hurrell RF (2018) The potential of fermentation and contamination of Teff by soil to influence iron intake and bioavailability from injera flatbread. *Int J Vit Nutr Res*, epub Oct 20 2018, DOI: 10.1024/0300-9831/a000422

2017

Herter-Aeberli, I, Eliancy, K, Rathon, Y, Loechl, CU, Pierre, JM, Zimmermann, MB (2017) In Haitian women and preschool children, iron absorption from wheat flour-based meals fortified with sodium iron EDTA is higher than that from meals with ferrous fumarate, and is not affected by Helicobacter pylori infection in children. *Br J Nutr*, 118, 273-279, DOI: 10.1017/S0007114517002045

Mueller, SM, **Herter-Aeberli, I**, Cepeda-Lopez, AC, Fluck, M, Jung, HH, Toigo, M (2017) The effect of body composition and serum inflammatory markers on the functional muscle-bone unit in premenopausal women. *Int J Obes*, 41, 1203-1206, DOI: 10.1038/ijo.2017.100

Stinca, S, Andersson, M, **Herter-Aeberli, I**, Chabaa, L, Cherkaoui, M, El Ansari, N, Aboussad, A, Weibel, S, Zimmermann, MB (2017) Moderate-to-Severe Iodine Deficiency in the "First 1000 Days" Causes More Thyroid Hypofunction in Infants Than in Pregnant or Lactating Women. *J Nutr*, 147, 589-595, DOI: 10.3945/jn.116.244665

Stinca, S, Andersson, M, Weibel, S, **Herter-Aeberli, I**, Fingerhut, R, Gowachirapant, S, Hess, SY, Jaiswal, N, Jukic, T, Kusic, Z, Mabapa, Mabapa, NS, Kumar, A, San Luis, TOL, Zhen, JQ, Zimmermann, MB (2017) Dried Blood Spot Thyroglobulin as a Biomarker of Iodine Status in Pregnant Women. *J Clin Endocrinol Metab*, 102, 23-32, DOI: 10.1210/jc.2016-2829

2016

Cepeda-Lopez, AC, Allende-Labastida, J, Melse-Boonstra, A, Osendarp, SJM, **Herter-Aeberli, I**, Moretti, D, Rodriguez-Lastra, R, Gonzalez-Salazar, F, Villalpando, S, Zimmermann, MB (2016) The effects of fat loss after bariatric surgery on inflammation, serum hepcidin, and iron absorption : a prospective 6-mo iron stable isotope study. *Am J Clin Nutr*, 104, 4, 1030-1038, DOI: 10.3945/ajcn.115.115592

2015

Cepeda-Lopez, AC, Melse-Boonstra, A, Zimmermann MB, **Herter-Aeberli, I** (2015) In overweight and obese women, dietary iron absorption is reduced and the enhancement of iron absorption by ascorbic acid is half of that in normal weight women. *Am J Clin Nutr*, 102, 6, 1389-1397, DOI: 10.3945/ajcn.114.099218, published December 2015

Schüpbach, R, Wegmüller, R, Bui, M, **Herter-Aeberli, I** (2015) Micronutrient status and intake in omnivores, vegetarians and vegans in Switzerland. *Eur J Nutr*, published online October 26, 2015, DOI: 10.1007/s00394-015-1079-7

Herter-Aeberli, I, Thankachan, P, Bose, B, Kurpad, AV (2015). Increased risk of iron deficiency and reduced iron absorption but no difference in zinc, vitamin A or B-vitamin status in obese women in India. *Eur J Nutr*, published online October 10, 2015, DOI 10.1007/s00394-015-1048-1

Schild, A, **Herter-Aeberli, I**, Fattiner, K, Anderegg, S, Schulze-König, T, Vockenhuber, C, Synal, H-A, Bischoff-Ferrari, H, Weber, P, von Eckardstein, A, Zimmermann MB (2015). Oral vitamin D supplements increase serum 25(OH)vitamin D in post-menopausal women and reduce calcium flux measured by ⁴⁵Ca skeletal labeling. *J Nutr*, 145:2333-40

Herter-Aeberli, I, Cherkaoui, M, El Ansari, N, Rohner, R., Stinca, S, Chabaa, L, von Eckardstein, A, Aboussad, A, Zimmermann, MB (2015). Iodine supplementation decreases hypercholesterolemia in iodine-deficient, overweight women: A randomized controlled trial. *J Nutr*, published online July 22, 2015, DOI 10.3945/jn.115.213439

Murer, M, Saarsalu, S, Zimmermann, J, **Herter-Aeberli, I** (2015). Risk factors for overweight and obesity in Swiss primary school children: results from a representative national survey. *Eur J Nutr*, published online March 22 2015, DOI 10.1007/s00394-015-0882-5

2014

Fischer, M, Egli, IM, **Aeberli, I**, Hurrell, RF, Meile, L (2014). Phytic acid degrading lactic acid bacteria in tef-injera fermentation. *Int J Food Microbiol*, 190: 54-60

Hochuli, M*, **Aeberli, I***, Weiss, A, Hersberger, M, Troxler, H, Gerber, PA, Spinass, GA, Berneis, K (2014). Sugar sweetened beverages with moderate amounts of fructose, but not sucrose, induce fatty acid synthesis in healthy young men: A randomized crossover study. *J Clin Endocrinol Metab*, DOI 10.1210/jc.2013-3856 (published online 06.03.2014)
*shared first authorship

Murer, SB, **Aeberli, I**, Braegger, Ch, Gittermann, M, Hersberger, M, Leonard, SW, Taylor, AW, Traber, MG, Zimmermann, MB (2014). Antioxidant Supplements Reduced Oxidative Stress and Stabilized Liver Function Tests but Did Not Reduce Inflammation in Randomized Controlled Trial in Obese Children and Adolescents. *J Nutr* 144 (2): 193-201, DOI 10.3945/jn.113.185561

2013

Murer, SB, Saarsalu, S, Zimmermann, MB, and **Aeberli, I** (2013). Pediatric adiposity stabilized in Switzerland between 1999 and 2012. *Eur J Nutr*, October 2013, DOI 10.1007/s00394-013-0590-y

Spliethoff, K, Meier, D, **Aeberli, I**, Gassmann, M, Langhans, W, Maggiorini, M, Lutz, TA, and Goetze, O (2013). Reduced Insulin Sensitivity as a Marker for Acute Mountain Sickness? *High Altitude Medicine & Biology* 14(3): 240-250.

Zimmermann MB, **Aeberli, I**, Andersson M, Assey V, Jara Yorg JA, Jooste P, Jukic T, Kartono D, Kusic Z, Pretell E, Sand Luis TOL Jr, Untoro J, Timmer A (2013) Thyroglobulin is a sensitive measure of both deficient and excess iodine intake in children and indicates no adverse effects on thyroid function in the UIC range of 100-299 µg/l: A UNICEF/ICCIDD study group report. *J Clin Endocrinol Metab*, DOI 10.1210/jc.2012-3952 (published online 23.01.2013)

2012

- Baumgartner J, Smuts CS, **Aeberli I**, Malan L, Tjalsma H, Zimmermann MB (2012) Overweight impairs efficacy of iron supplementation in iron-deficient South African children: a randomized controlled intervention. *Int J Obes*, DOI 10.1038/ijo.2012.145 (published online 04.09.2012)
- Aeberli I**, Hochuli M, Gerper PA, Sze L, Murer SB, Tappy L, Spinass GA, Berneis K (2012) Moderate Amounts of Fructose Consumption Impair Insulin Sensitivity in Healthy Young Men: a randomized controlled trial. *Diabetes Care*, DOI 10.2337/dc12-0540 (published online 28.08.2012)
- Aeberli I**, Erb E, Spliethoff K, Meier D, Götze O, Frühauf H, Fox M, Finlayson GS, Gassmann M, Berneis K, Maggiorini M, Langhans W, Lutz TA (2012) Disturbed eating at high altitude – influence of food preferences, acute mountain sickness and satiation hormones. *Eur J Nutr*, DOI 10.1007/s00394-012-0366-9 (published online 10.05.2012)
- Baldinger N, Krebs A, Müller R, **Aeberli I** (2012) Swiss children consuming breakfast regularly have better motor functional skills and are less overweight than breakfast skippers. *J Am Coll Nutr*, April 2012, 31:87-93
- Aeberli I**, Gut-Knabenhans M, Kusche-Ammann RS, Zimmermann MB (2012) A composite score combining waist circumference and body mass index more accurately predicts body fat percentage in 6- to 13-year-old children. *Eur J Nutr*, DOI 10.1007/s00394-012-0317-5 (published online 10.02.2012)

2011

- Olds T, Maher C, Zumin S, Péneau S, Lioret S, Castetbon K, De Wilde J, Hohepa M, Maddison R, Lissner L, Sjöberg A, Zimmermann MB, **Aeberli I**, Ogden C, Flegal K, Summerbell C (2011) Evidence that the prevalence of childhood overweight is plateauing: evidence from nine countries. *Int J Ped Obes*, 6(5-6), 342-60
- König F, Andersson M, Hotz K, **Aeberli I**, Zimmermann MB (2011) Then repeat collections for urinary iodine from spot samples or 24-hour samples are needed to reliably estimate individual iodine status in women. *J Nutr*, 141(11), 2049-2054
- Aeberli I**, Gut-Knabenhans M, Kusche-Ammann R, Molinari L, Zimmermann M (2011) Waist circumference and weight-to-height ratio percentiles in a nationally representative sample of 6-13 year old children in Switzerland. *Swiss Med Wkly*, 141:w13227
- Aeberli I**, Gerber PA, Hochuli M, Haile SR, Gouni-Berthold I, Berthold HK, Spinass GA., Berneis K (2011) Low to moderate consumption of sugar-sweetened beverages impairs glucose and lipid metabolism and promotes inflammation in healthy young men: A randomized, controlled trial. *Am J Clin Nutr*, 94(2), 479-85
- Cepeda-Lopez AC, Osendarp SJ, Melse-Boonstra A, **Aeberli I**, Gonzalez-Salazar F, Feskens E, Villalpando S, Zimmermann MB (2011) Sharply higher rates of iron deficiency in obese Mexican women and children are predicted by obesity-related inflammation rather than by differences in dietary iron intake. *Am J Clin Nutr*, 93(5), 975-83
- Murer S, Knöpfli BH, **Aeberli I**, Jung A, Wildhaber J, Wildhaber-Brooks J, Zimmermann MB (2011) Baseline leptin and leptin reduction predict improvements in metabolic parameters and long-term fat loss in obese children and adolescents: a prospective study of an inpatient weight-loss program. *Am J Clin Nutr*, 93(4), 695-702

2010

- Andersson M, **Aeberli I**, Wüst N, Piacenza AM, Bucher T, Henschen I, Haldimann M, Zimmermann MB (2010) The Swiss iodized salt program provides adequate iodine for school children and pregnant women but weaning infants not receiving iodine-containing complementary foods as well as their mothers are iodine deficient. *J Clin Endocrinol Metab*, 95(12), 5217-24
- Aeberli I**, Jung A, Murer S, Wildhaber J, Wildhaber-Brooks J, Knöpfli B, Zimmermann MB (2010) During rapid weight loss in obese children, reductions in TSH predict improvements in insulin sensitivity independent of changes in body weight or fat. *J Clin Endocrinol Metab*, 95(12), 5412-8
- Aeberli I**, Henschen I, Molinari L, Zimmermann MB (2010) Stabilization of the prevalence of childhood obesity in Switzerland. *Swiss Med Wkly*, 140:w13046
- Aeberli I**, Amman RS, Knabenhans M, Molinari L & Zimmermann MB (2010) Decrease in the prevalence of pediatric adiposity in a 5-year prospective national study in Switzerland. *Public Health Nutr*, 13(6), 806-811

2009

- Aeberli I**, Hurrell RF, Zimmermann MB (2009) Overweight children have higher circulating hepcidin concentrations and lower iron status but have dietary iron intakes and bioavailability comparable with normal weight children. *Int J Obes* 33, 1111-1117

Aeberli I, Spinas GA, Lehmann R, L'Allemand D, Molinari L & Zimmermann MB (2009) Diet determines features of the metabolic syndrome in 6 to 14 year old children. *Int J Vitam Nutr Res* 79, 14-23

Zimmermann MB, **Aeberli I**, Melse A, Grimci L, Bridson J, Chaouki N, Mbhenyane X & Jooste PL (2009) Iodine treatment in children with subclinical hypothyroidism due to chronic iodine deficiency decreases TSH and C-peptide concentrations and improves lipid profile. *Thyroid* 19, 1099-1104

2008

Aeberli I, Beljean N, Lehmann R, L'Allemand D, Spinas GA & Zimmermann MB (2008) The increase of fatty acid-binding protein aP2 in overweight and obese children: interactions with dietary fat and impact on measures of subclinical inflammation. *Int Obes* 32, 1513-1520

Zimmermann MB, Zeder C, Muthayya S, Winichagoon P, Chaouki N, **Aeberli I** & Hurrell RF (2008) Adiposity in women and children from transition countries predicts decreased iron absorption, iron deficiency and a reduced response to iron fortification. *Int J Obes* 32, 1098-1104

2007

Aeberli I, Biebinger R, Lehmann R, L'Allemand D, Spinas GA & Zimmermann MB (2007) Serum retinol-binding protein 4 concentration and its ratio to serum retinol are associated with obesity and metabolic syndrome components in children. *J Clin Endocrinol Metab* 92, 4359-4365

Aeberli I, Kaspar M & Zimmermann MB (2007) Dietary intake and physical activity of normal weight and overweight 6 to 14 year old Swiss children. *Swiss Med Wkly* 137, 424-430

Aeberli I, Zimmermann MB, Molinari L, Lehmann R, L'Allemand D, Spinas GA & Berneis K (2007) Fructose intake is a predictor of LDL particle size in overweight schoolchildren. *Am J Clin Nutr* 86, 1174-1178

Williamson G, **Aeberli I**, Miguet L, Zhang Z, Sanchez MB, Crespy V, Barron D, Needs P, Kroon PA, Glavinas H, Krajcsi P & Grigorov M (2007) Interaction of positional isomers of quercetin glucuronides with the transporter ABCC2 (cMOAT, MRP2). *Drug Metab Dispos* 35, 1262-1268

2006

Aeberli I, Molinari L, Spinas G, Lehmann R, L'Allemand D & Zimmermann MB (2006) Dietary intakes of fat and antioxidant vitamins are predictors of subclinical inflammation in overweight Swiss children. *Am J Clin Nutr* 84, 748-755

2005

Aeberli I, Jacob S & Zimmermann MB (2005) Dietary Habits and Physical Activity in Normal- and Overweight 6-12 yr old Children in the German-speaking part of Switzerland. In *5th Swiss Nutrition Report* [M Eichholzer, E Camenzind-Frey, A Matzke, R Amado and P Ballmer, editors]. Bern: Federal Office of Public Health.

Zimmermann MB, **Aeberli I**, Torresani T & Burgi H (2005) Increasing the iodine concentration in the Swiss iodized salt program markedly improved iodine status in pregnant women and children: a 5-y prospective national study. *Am J Clin Nutr* 82, 388-392

Review articles, book chapters and monographies

Kurpad AV, Edward B, **Aeberli I** (2013) Micronutrient supply and health outcomes in children. *Curr Op Clin Nutr Met Care* 16, 328-338.

Kurpad A & **Aeberli I** (2013) Under-nutrition. In *Clinical Nutrition* [M Elia, O Ljungqvist, RJ Stratton, SA Lanham-New, eds]. Singapore: Wiley-Blackwell.

Kurpad AV, **Aeberli I** (2012) Low serum magnesium and obesity – causal role or diet biomarker? *Indian Pediatrics* 49, 100-101.

Kurpad AV, Varadharajan KS, **Aeberli I** (2011) The thin fat phenotype and global metabolic disease risk. *Curr Op Clin Nutr Met Care* 14, 543-547.

Cepeda-Lopez AC, **Aeberli I**, Zimmermann MB (2010) Does obesity increase risk for iron deficiency? A review of the literature and the potential mechanism. *Int J Vitam Nutr Res*, 80(4-5), 263-70

Aeberli I (2009) Nutritional risk factors for the metabolic syndrome in overweight children. Saarbrücken (Germany): Südwestdeutscher Verlag für Hochschulschriften,

Zimmermann MB & **Aeberli I** (2008) Dietary determinants of subclinical inflammation, dyslipidemia and components of the metabolic syndrome in overweight children: a review. *Int J Obes* 32 Suppl 6, S11-18.

Aeberli I & Zimmermann MB (2007) Glycemic control, insulin resistance and obesity. In *Novel Food ingredients for weight control* [CJK Henry, editor]. Cambridge: Woodhead Publishing Limited.

Aeberli I, Molinari L & Zimmermann MB (2005) Body weight development in 6-12 year old Swiss children. *Cardiovasc* 6, 6-10.