

# **Annual Dutch Diabetes Research Meeting 2017**

Nederlandse Vereniging voor Diabetes Onderzoek (NVDO)  
Nederlandse Associatie voor de Studie van Obesitas (NASO)  
Netherlands Diabetes Epidemiology Study Group (NDESG)  
Psychosocial Aspects of Diabetes (PSAD) Study Group  
Nederlandse Vereniging voor Neurovasculaire Complicaties  
van Diabetes (NVCD)

**30 November & 1 December 2017**  
**Hotel de Bilderberg, Oosterbeek**

# Thursday 30 November 09.15-10.30 Parallel Sessions

08.00-13.15 Registration

## 09.15-10.30 NVDO/NASO

### PS1: Adipose Tissue Biology I

Chair: Bruno Guigas  
Het Binnenhof

9.15-9.30: M Defour  
(Wageningen)

123. Dispensable role for PPARalpha in cold-induced browning

9.30-9.45: (H.J.P.) van der Zande (Leiden)

124. The Schistosoma mansoni glycoprotein omega-1 improves whole-body metabolic homeostasis independent of its Th2 polarizing capacity

9.45-10.00: S.C. Boone (Leiden)  
130. Metabolomics: a search for biomarkers of visceral fat volume and liver fat content

10.00-10.15: T. Christen (Leiden)

133. Sex differences in leptin but not adiponectin concentrations are explained by differences in body fat distribution

10.15-10.30: M.F. Broekema (Utrecht)

150. Deciphering the molecular defect of a single complex AGPAT2 allele in the spectrum of genetic lipodystrophies

## 09.15-10.30 NVDO/NASO

### PS2: Beta Cell Function I

Chair: Martin Gotthardt  
Bibliotheque

9.15-9.30: M. Boss (Nijmegen)

167. Imaging beta cells in patients after Roux-en-Y gastric bypass (RYGB) surgery by <sup>68</sup>Ga-exendin-4 PET/CT

9.30-9.45: L. Joosten (Nijmegen)

184. Optimal glycaemic control improves quantification of beta cell mass by imaging

9.45-10.00: J.B. Doppenberg (Leiden)

186. Islet Donor Risk Score: An evidence-based IEQ prediction  
10.00-10.15: N. Groen (Leiden)

202. Exploring human pancreatic beta-cell plasticity using single-cell RNA sequencing

10.15-10.30: F. Leenders (Leiden)

203. Maintaining human beta-cell identity in diabetes: the role of ER-stress and GLP-1R agonism

## 09.15-10.30 PSAD

### PS3: PSAD

Chair: Maartje de Wit  
The Lacock Abbey

9.15-9.30: M. de Wit (Amsterdam)

120. Diabetes distress in people with type 2 diabetes: The Diabetes Pearl Cohort

9.30-9.45: S. Huisman (Leiden)

211. Binge eating amongst adults with type 1 or type 2 diabetes: prevalence and relationship with clinical factors (MILES-Study, NL)

9.45-10.00: C.B. Schmidt (Amsterdam)

161. Systematic review and critical appraisal of psychological interventions in diabetes patients with elevated diabetes-distress

10.00-10.15: T.M. Alshehri (Leiden)

201. The association of overall and abdominal adiposity with depressive mood: a cross-sectional study

10.15-10.30: B. Potter van Loon (Amsterdam)

159. Diabetes Distress increases health care utilization and expenditure

## 09.15-10.30 NDESG

### PS4: Metabolic risk factors for diabetes

Chair: Renée de Mutsert  
The Oval Office

9.15-9.30: M.M. Bos (Leiden)

160. Measures of sleep and insulin resistance: evidence from a cross-sectional study in the Netherlands Epidemiology of Obesity Study

9.30-9.45: F. Rutters (Amsterdam)

122. The association between multiple sleep-related characteristics and the metabolic syndrome in the general population: The New Hoorn study

9.45-10.00: T. Voortman (Rotterdam)

162. Plant versus animal based diets and development of type 2 diabetes

10.00-10.15: Z. Chen (Rotterdam)

182. Associations between serum fatty acids with longitudinal obesity, insulin resistance, and risk of prediabetes and type 2 diabetes

10.15-10.30: N. van der Schaft (Rotterdam)

183. Dietary Antioxidant Capacity and Risk of Prediabetes and Type 2 Diabetes Mellitus: The Rotterdam Study

## 9.15-10.30

### PS5: Klinische Diabetologie

Voorzitter: Erik Serné  
Zappeion/Megaron

9.15-9.45: Petra Elders  
Parelsnoer, de stand van zaken

9.45-10.00: S. van Oort (Nijmegen)

125: The characterization of people with type 2 diabetes mellitus and polypharmacy in the Netherlands: The Diabetes Pearl Cohort

10.00-10.15: M. Out (Hoogeveen)

119: Long-term treatment with metformin in type 2 diabetes and vitamin D levels: A post hoc analysis of a randomized placebo-controlled 4.3 year trial

10.15-10.30: H.J. van Eyk (Leiden)

195: Circulating CETP is not related to the hepatic triglyceride content: lessons from a liraglutide intervention trial and a population-based cohort

10.30-11.15 Coffee break

# Thursday 30 November 11.15-12.30 Parallel sessions

## 11.15-12.30 NVDO/NASO

### PS6: Adipose Tissue Biology II

Chair: Janna van Diepen  
Het Binnenhof

11.15-11.30: X. van Dierendonck (Wageningen)

165. The role of uncoupling protein 2 in adipose tissue macrophages during the development of obesity and insulin resistance

11.30-11.45: M.B. Dommerholt (Groningen)

179. Adipose-specific loss of TR4 in mice results in lipodystrophy, hepatic steatosis and insulin resistance

11.45-12.00: M. Kalafati (Groningen)

193. Adipose tissue gene expression analysis of tissue-specific insulin resistance in human obesity

12.00-12.15: S. Kurstjens (Nijmegen)

200. Magnesium deficiency prevents diet-induced obesity but is associated with hypertriglyceridemia

12.15-12.30: M.J.C. van der Lienden (Leiden)

205. HEPES Drives a MIT/TFE-mediated Lysosomal-Autophagic Gene Network in Cultured Cells: A Call for Caution

## 11.15-12.15 NVDO/NASO

### PS7: Gastrointestinal and Liver Biology II

Chair: Mattea Müller  
Bibliotheque

11.15-11.30: E.C.E. Meessen (Amsterdam)

166. The variability and reproducibility of the postprandial response

11.30-11.45: T.P.M. Scheithauer (Amsterdam)

204. Intestinal IgA in Type 2 Diabetes – a Marker for Bacterial Translocation?

11.45-12.00: M. Deschasaux (Amsterdam)

199. Gut microbiota composition in a multi-ethnic population. The HELIUS study

12.00-12.15: L.N. Deden (Arnhem)

146. Evaluation of a standardized peri- and postoperative treatment protocol in insulin dependent type 2 diabetes patients undergoing Roux-en-Y gastric bypass (RYGB) surgery

## 11.15-12.30 NDESG

### PS8: NDESG/ PSAD Diabetes care

Chair: Amber van der Heijden  
The Lacock Abbey

11.15-11.30: A.A. van der Heijden (Amsterdam)

197. Group-based peer support in people with type 2 diabetes: results of a randomised controlled trial (the Diacourse Peer Support Study)

11.30-11.45: A. Rutte (Amsterdam)

156. A PLISSIT-model intervention in people with type 2 diabetes with sexual problems: results from a cluster-randomized controlled trial in primary care

11.45-12.00: M. Veugen (Maastricht)

134. Health burden in type 2 diabetes and prediabetes – The Maastricht Study

12.00-12.15: S. Brinkhues (Maastricht)

185. Social network characteristics are associated with type 2 diabetes complications - The Maastricht Study

12.15-12.30: A.M. Boels (Utrecht)

153. Patient activation in individuals with type 2 diabetes mellitus: does it differ for those on insulin therapy?

## 11.15-12.30 NDESG

### PS9: Lifestyle risk factors: physical activity and weight change

Chair: Eva Corpeleijn  
The Oval Office

11.15-11.30: J.H.P.M. van der Velde (Maastricht)

149. Sedentary time and higher intensity physical activity versus cardiorespiratory fitness; what is more important for cardio-metabolic health?

11.30-11.45: O. Byambasukh (Groningen)

141. Physical activity, fatty liver and glucose metabolism over the life course: The Life Lines Cohort

11.45-12.00: N. Jehoel (Maastricht)

155. Differences in personal and environmental determinants of physical activity between individuals with and without type 2 diabetes: The Maastricht Study

12.00-12.15: I. Verkouter (Leiden)

196. The association between adult weight gain and insulin resistance is predominantly mediated by visceral fat: the NEO study

12.15-12.30: L. M. 't Hart (Leiden)

192. Blood metabolites associate with present and future glycaemic control in type 2 diabetes independent of glucose-lowering drugs use

## 11.15-12.30

### PS5 (CNT'D): Klinische diabetologie

Voorzitter: Marten Engelse  
Zappeion/Megaron

11.15-11.45: Nicolaas Schaper  
'Minder zitten' in de beweegrichtlijnen van de gezondheidsraad, waarom eigenlijk?

11.45-12.15: Bastiaan de Galan

The good, the bad and the ugly van hypo's bij diabetes

12.15-12.30

Lian van Meijel (Nijmegen)

144. Prevalence of impaired awareness of hypoglycemia and severe hypoglycemia among patients with type 2 diabetes treated with insulin

# Thursday 30 November 13.30-14.45 Parallel sessions

## 12.30-13.30 Lunch break

### 13.30-14.45 NVDO/NASO

#### PS10: Pathogenesis of insulin resistance I

Chair: Matthijs Hesselink  
Het Binnenhof

13.30-13.45: R.L.J. van Meijel  
(Maastricht)

210. Mild intermittent hypoxia exposure decreases adipose tissue and skeletal muscle oxygenation and alters substrate oxidation in obese individuals

13.45-14.00: G.J. Bakker  
(Amsterdam)

194. Pancreatic  $^{18}\text{F}$ -FDG uptake is increased in type 2 diabetes

14.00-14.15: Y.M.H. Bruls  
(Maastricht)

173. L-carnitine infusion does not alleviate lipid-induced insulin resistance and metabolic inflexibility in healthy volunteers

14.15-14.30: M. de Ligt  
(Maastricht)

169. Resveratrol improves mitochondrial function but does not affect insulin sensitivity or brown adipose tissue in first degree relatives of patients with type 2 diabetes

### 13.30-15.00 NVDO/NASO

#### PS11: Beta cell function II

Chair: Maarten Brom  
Bibliotheque

13.30-13.45: J. Triñanes  
(Leiden)

206. Exploring the molecular mechanisms underlying the diabetogenicity of tacrolimus in human islets

13.45-14.00: M.J.L. Kracht  
(Leiden)

209. Monitoring beta cell stress: development of a bioluminescent reporter for high throughput drug screening

14.00-14.15: J. Juksar  
(Utrecht)

214. Cryopreservation of patient derived pancreatic tissue for organoid generation

14.15-14.30: J.M. Ratter  
(Nijmegen)

207. Hypoglycemia promotes inflammation by recruitment of alternative monocytes and other pro-inflammatory leukocyte subsets in patients with type 1 diabetes

### 13.30-14.45 NVCD

#### PS12: NVCD I

Chair: Sicco Bus  
The Lacock Abbey

13.30-13.45: J.J. van Netten  
(Brisbane)

135. The validity and reliability of remote diabetic foot ulcer assessment using mobile phone images

13.45-14.00: A.M. Wijlens  
(Nijmegen)

171. An explorative study on the validity of various definitions of a  $2.2^{\circ}\text{C}$  temperature threshold as warning signal for impending diabetic foot ulceration

14.00-14.15: W.B. aan de Stegge  
(Almelo)

136. The relation between left-to-right differences in cumulative plantar tissue stress and plantar foot temperature at high risk locations in diabetes patients

14.15-14.30: Plenary lecture:  
Willem Rinkel (Rotterdam)

Traditional Methods versus Quantitative Sensory Testing of the Feet at Risk: Results from the Rotterdam Diabetic Foot Study  
14.30-14.45: Plenary lecture:  
Jennefer Zwaferink  
Effect of shoe sole stiffness on plantar pressure and patient satisfaction in patients at high risk of foot ulceration

### 13.30-14.45 NDESG

#### PS13: Complications and cardiovascular risk

Chair: Joline Beulens  
The Oval Office

13.30-13.45: R. van Wijngaarden  
(Utrecht)

198. Validation of clinically suitable retinopathy prediction models in people with type 2 diabetes

13.45-14.00: G. Nijpels  
(Amsterdam)

154. Prevalence of ECG abnormalities in a population-based type 2 diabetes cohort, the Hoorn Diabetes Care System cohort study

14.00-14.15: M. Oskam  
(Maastricht)

175. Sex differences in cardiometabolic risk management of type 2 diabetes

14.15-14.30: N.M.J. Hanssen  
(Maastricht)

148. Higher plasma methylglyoxal levels are associated with incident cardiovascular disease and cardiovascular mortality in individuals with type 2 diabetes

14.30-14.45: S.D. Alfian  
(Groningen)

140 Predictors of non-persistence and non-adherence to statin treatment among patients on oral diabetes medication in the Netherlands

### 13.30-14.45 NVDO/NASO

#### PS14: Clinical session

Chair: Suat Simsek  
Zappeion/Megaron

13.30-14.00: Carianne  
Verheugt

De start van DPARD (Dutch Pediatric and Adult Registry of Diabetes), stand van zaken en verwachtingen

14.00-14.30: Daniël van Raalte  
GLP1-agonisten in Nederland, voor wie, wanneer en waarom?

14.30-14.45: L. Tonneijck  
(Amsterdam)

218. Comparative effect of lixisenatide versus insulin glulisine on postprandial haemodynamics in insulin glargine-treated type 2 diabetes patients: an 8-week, randomised trial

# Thursday 30 November 15.15-16.15 Parallel sessions

## 14.45-15.15 Coffee break

**15.15-16.15  
NVDO/NASO**

**PS15: Brain**

**Chair: Jana van Vliet-  
Ostapchouk  
Het Binnenhof**

**15.15-15.30: Y. Gao (Amsterdam)**  
*143. Deficiency of leptin receptor in myeloid cell disrupts hypothalamic metabolic circuit and cause obesity*  
**15.30-15.45: C.M. Fernando**  
*208. Kisspeptin and RFRP3 effects on energy metabolism*  
**15.45-16.00: T. van der Meer (Groningen)**  
*137. Distribution of non-persistent endocrine disruptors in two different regions of the human brain*

**15.15-16.15  
NVDO/NASO**

**PS16: Life style  
interventions**

**Chair: Esther Phielix  
Bibliotheque**

**15.15-15.30: E. van Eekelen (Leiden)**  
*163. Consumption of alcoholic and non-alcoholic beverages in relation to liver fat content: the NEO study*  
**15.30-15.45: R.C. Vos (Utrecht)**  
*164. Theory based Diabetes Self-management Education with Pre-selection of Participants. An interim-analysis of an RCT with 2.5 years follow-up*  
**15.45-16.00: B.S. Uitbeijerse (Leiden)**  
*216. Effects of intensive self-monitoring of life-style factors on glycemic control: a pilot study of POWER2DM*  
**16.00-16.15: H.A. van Vugt (Leiden)**  
*151. Implementation of a structured diabetes consultation model to facilitate a person-centered approach: results from a nationwide Dutch study*

**15.15-16.30 NVCD**

**PS12: NVCD II**

**Chair: Jaap van Netten  
The Lacock Abbey**

**15.15-15.35: S.A. Bus (Amsterdam)**  
*Foot ulcer recurrence in diabetes: how large is the problem and what can we do about it?*  
**15.35-15.55: N. Schaper (Maastricht)**  
*Pathogenesis and treatment of acute Charcot neuro-osteoarthropathy*  
**15:55 Charcot-NET meeting**

**15.15-16.15 NDESG**

**PS17: Dynamics in risk  
factors**

**Chair: Roderick Slieker  
The Oval Office**

**15.15-15.30: M. Obura (Amsterdam)**  
*145. Post-load glucose curves and their association with cardiometabolic risk factors over time*  
**15.30-15.45: J.S Yauw (Utrecht)**  
*170. Modelling dynamics of systolic blood pressure in people with type 2 diabetes to predict mortality: which measure to use?*  
**15.45-16.00: R.C. Slieker (Leiden)**  
*176. A high glucose visit-to-visit variability is associated with a poor metabolic profile in individuals in the Hoorn Diabetes Care System cohort*  
**16.00-16.15: T.L Zhou (Maastricht)**  
*126. Blood Pressure Variability In Individuals With And Without (Pre)diabetes – The Maastricht Study*

**15.15-16.30**

**ALV NIV-Diabeteskamer**

**Chair: Thomas van Bommel**

## 16.15-17.00 Snack break

# Thursday 30 November 17.00-20.00

# Plenary Session

**17.00-17.50 32<sup>nd</sup> Gerritzen Award Ceremony for best thesis on diabetes research**

**Chair: Eelco de Koning**

**17.00-17.05 Introduction by the chairman**

**17.05-17.20 Anne Gemmink - MUMC Maastricht: Myocellular lipid droplets and insulin sensitivity: a microscopy approach**

**17.20-17.35 Joreintje Mackenbach - VUMC Amsterdam: Exploring Obesogenic Environments**

**17.35-17.50 Harmen Sieben Spijker - LUMC Leiden: The Ambiguous  $\beta$ -cell On the Loss of Human Pancreatic  $\beta$ -cell Identity**

**17:50-18.30 break**

**18.30-19.30 State-of-the-Art lecture**

**Prof. Dr. Fredrik Karpe University of Oxford, UK;**

***Adipose tissue expandability and metabolic complications***

**Chair: Matthijs Hesselink**

**19.30-19.45 Gerritzen Award Ceremony (cont'd)**

**19.30-19.35 Short address by award sponsor**

**19.35-19.40 Announcement of the winner of the 32<sup>nd</sup> Gerritzen award**

**19.40-20.00 Drinks**

**20.00-01.00 Dinner, Gerritzen Party with music**



# Friday 1 December 9.15-10.15 Parallel sessions

08.30-09.15 Algemene Ledenvergadering NVDO

Bibliotheque

## 09.15-10.15 NVDO/NASO

### PS18: Clinical

Chair: Helen Lutgers  
The Oval Office

9.15-9.30: M. Olde Bekkink  
(Nijmegen)

189. Early detection of hypoglycemia in type 1 diabetes using heart rate variability measured by a wearable device

9.30-9.45: K. van Nierop  
(’s-Hertogenbosch)

190. Effect of metformin on the viability of colorectal cancer derived organoids

9.45-10.00: M. Nijhoff  
(Leiden)

213. TNF-alpha blockade during islet transplantation in immunosuppressed recipients

10.00-10.15: N.M.A. Idzerda  
(Groningen)

128. Proteinuria and cholesterol reduction are independently associated with less renal function decline in statin treated patients; a post-hoc analysis of the PLANET trials

## 09.15-10.15 NVDO/NASO

### PS19: Metabolism

Chair: Yvo Kusters  
Bibliotheque

9.15-9.30: J. van Vliet-Ostaptchouk  
(Groningen)

138. The effect of the exposure to endocrine disruptors on genome-wide DNA methylation

9.30-9.45: Y. Xin  
(Maastricht)

142. Associations of the alternative and classical pathways of complement activation with incident metabolic syndrome: The CODAM study

9.45-10.00: P. de Goede  
(Amsterdam)

178. Timing of Feeding Behavior Affects Rhythms in the Muscle Molecular Clock and Glucose Tolerance

10.00-10.15: H. Li  
(Singapore)

157. A transient gestation-specific mouse model of hyperglycemia with unique opportunities for nutritional and pharmacological interventions in dam and offspring

## 09.15-10.15 NVDO/NASO

### PS20: Pathogenesis of insulin resistance II

Chair: Maarten Soeters  
Het Binnenhof

9.15-9.30: A. Gemmink  
(Maastricht)

127. High protein levels of PLIN2 and low levels of ATGL are associated with insulin resistance and low number of intramyocellular lipid droplets

9.30-9.45: J. Wefers  
(Maastricht)

129. Circadian Misalignment Induces Insulin Resistance and affects the skeletal muscle Molecular Clock in Humans

9.45-10.00: S. Daemen  
(Maastricht)

177. Differential effects of saturated fatty acids and unsaturated fatty acids on mitochondrial network dynamics and lipid droplet formation

10.00-10.15: B. van der Kolk  
(Maastricht)

191. Plasma lipid profiling of tissue-specific insulin resistance in human obesity

## 09.15-10.15 NVDO/NASO

### PS21: Cardiovascular Function and Biology I

Chair: Nordin Hanssen  
The Lacock Abbey

9.15-9.30: I. Al-Ghanam  
(Rotterdam)

188. The effect hyperglycemia and cardiovascular risk factors on subclinical atherosclerosis in morbid obesity

9.30-9.45: A.L. Emanuel  
(Amsterdam)

217. Skin microvascular function and the presence of white matter lesions predicts cognitive decline in diabetic patients but not in control subjects

9.45-10.00: B. Burggraaf  
(Rotterdam)

174. Coronary Calcium Score and carotid Intima Media Thickness in Type 2 Diabetes Mellitus

10.00-10.15: B.C.S. Boa  
(Amsterdam)

158. Prior exercise prevents impairment of insulin-mediated vasodilatation of muscle arterioles during high fat diet feeding in mice

14.45-15.15 Coffee break

# Friday 1 December 10.45-11.15 Plenary Session

## 10.45-11.15 Terpstra Award ceremony

Chair: Bastiaan de Galan  
Zappeion/Megaron

10.45-10.25: Opening and Winner of the award in 2016

10.25-11.15: Announcement and lecture by the 2017 awardee

## 11.15- 12.15

State-of-the-art-lecture II: Prof. Dr. Soffia Gudbjornsdottir: The Swedish Diabetes Registry; digging a gold mine.

Chair: Marten Engelse  
Zappeion/Megaron

## 12.15-12.45 Coffee break

# Friday 1 December 11.45-13.30 Best abstracts

## 12.45-13.15 NVDO/NASO

### BEST ABSTRACTS

Chair: Matthijs Hesselink  
Zappeion/Megaron

#### 12.45-13.00 K. Thiem (Nijmegen)

181. Hyperglycemia memory of innate immune cells promotes pro-inflammatory responses in vitro

#### 13.00-13.15 N. Simons (Maastricht)

132. Patients with an impaired fructolysis are characterized by a paradoxical increase in hepatic fat content

#### 13.15-13.30 J.M. Donkers (Amsterdam)

152. Inhibition of hepatic bile acid uptake prolongs bile acid signalling, leading to reduced adiposity and increased GLP-1 secretion

#### 13.15-13.30 Pascal de Boer (Groningen)

180. Exocrine-endocrine interactions at the onset of Type 1 Diabetes

## 13.45 Farewell lunch