Annual Dutch Diabetes Research Meeting 2014

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)

27 & 28 November 2014
Hotel de Bilderberg, Oosterbeek
### Thursday 27 November 09.30-10.45 Parallel Sessions

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#### Chair: Patrick Schrauwen

- **9.30-9.45:** J. Oosterman (AMC)
  1. A time-of-day dependent effect of fat and sugar intake on body weight gain and energy metabolism

#### Chair: Erik Serné

- **9.45-10.00:** J. Hansen (MUMC)
  1. The broken clock: Molecular time keeping is disturbed in skeletal muscle of obese and type 2 diabetes mellitus patients
- **10.00-10.15:** A. Oppenhuizen (AMC)
  1. Nocturnal light exposure acutely reduces glucose tolerance in Wistar rats
- **10.15-10.30:** R. van den Berg (LUMC)
  1. A single night of sleep curtailment increases acylcarnitines: novel insights in the relationship between sleep and insulin resistance
- **10.30-10.45:** R. Versteeg (AMC)
  1. Acute effects of light on glucose metabolism in healthy subjects and in patients with type 2 diabetes

#### Chair: Sabita Soedamah-Mutu

- **9.30-9.45:** R. Bijkerk (LUMC)
  1. Circulating microRNAs associate with diabetic nephropathy and systemic microvascular damage and normalize after simultaneous pancreas-kidney transplantation
- **9.45-10.00:** M. Nabben (TUE)
  1. Metabolic adaptations in diabetes protect the murine heart from pressure overload-induced failure, as evidenced by in vivo PET, MRI, and MRS
- **10.00-10.15:** M. Smits (VUMC)
  1. GLP-1 receptor agonist exenatide increases capillary perfusion independent of nitric oxide in healthy overweight males
- **10.15-10.30:** G. Hulssege (RIVM)
  1. A short-term very low calorie diet reduces plasma endothelial function markers in type 2 diabetes
- **10.30-10.45:** J. Woerdeman (VUMC)
  1. Acute effects of hyper-insulinaemia on systemic vascular resistance and its relationship with glucose uptake

#### Chair: Maartje de Wit

- **9.30-9.45:** S. Rauh (VUMC)
  1. Self-Reported Hypoglycaemia and Mortality in Type 2 Diabetes Patients Treated with Insulin in the Diabetes Care System West-Friesland, The Netherlands
- **9.45-10.00:** H. Bilo (Isala Zwolle)
- **10.00-10.15:** G. Duijzer (WuR)
  1. Effect of the SLIMMER diabetes prevention intervention on clinical and metabolic factors, dietary intake, and physical activity
- **10.15-10.30:** E. Kayan (VUMC)
  1. Cultural adaptation of a web-based cognitive behavioural therapy programme for Turkish diabetes patients with depressive symptoms: Haydi Baklim
- **10.30-10.45:** J. Oosterman (AMC)
  1. A time-of-day dependent effect of fat and sugar intake on body weight gain and energy metabolism

#### Chair: Maartje de Wit

- **9.30-9.45:** E. Kilic (St. Lucas Andreas ZH Amsterdam)
  1. Fear of hypoglycemia and the relation with psychiatric comorbidity and clinical values
- **9.45-10.00:** M. Schram (MUMC)
  1. Psychological and personality factors in type 2 diabetes mellitus, preliminary results from The Maastricht Study
- **10.00-10.15:** F. Rutters (VUMC)
  1. Stressful life events and the metabolic syndrome – The Hoorn Study
- **10.15-10.30:** F. Holleman (AMC)
  1. Diabetesbehandeling bij ouderen: de jaren des onderscheids
- **10.30-10.45:** J. Woerdeman (VUMC)
  1. Arterial stiffness, cognition, and type 2 diabetes mellitus – preliminary results from The Maastricht Study

#### Chair: Bastiaan de Galan

- **9.30-9.45:** I. van Rosenstiel (Slotervaart ZH Amsterdam)
  1. Obesitas in kinderen, holistische benadering
- **9.45-10.00:** M. Nabben (TUE)
  1. Metabolic adaptations in diabetes protect the murine heart from pressure overload-induced failure, as evidenced by in vivo PET, MRI, and MRS
- **10.00-10.15:** H. Bilo (Isala Zwolle)
- **10.15-10.30:** G. Hulssege (RIVM)
  1. Trajectories of BMI, waist circumference, alanine aminotransferase and gamma glutamyltransferase before the onset of type 2 diabetes – The Doetinchem Cohort Study
- **10.30-10.45:** C. Schmidt (St. Lucas Andreas ZH Amsterdam)
  1. The association between ethnicity and diabetes specific and aspecific distress

### 10.45-11.30 Coffee break
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<td>PS6: Beta cell I</td>
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**Oosterbeek**

**PS6: Beta cell I**
- Chair: Janine Kruit
- 11.30-11.45: W. Arabieter (Radboud UMC)
  - Non-invasive and repeated monitoring of islet transplants in skeletal muscle by SPECT imaging
- 11.45-12.00: J. Dogenberg (LUMC)
  - Volume increase after day 1 culture of pancreatic islets: a marker for high quality islet isolation?

**Renkum**

**NVDO/NASO**
- Chair: Debby Koonen
- 11.30-11.45: H. de Wit (Radboud UMC)
  - The addition of liraglutide in T2DM patients with pronounced insulin-induced weight gain reverses weight, decreases insulin need and improves glycemic control
- 11.45-12.00: J. Jonker (UMCG)
  - Endocrinization of FGF1 produces a neomorphic and potent insulin sensitizer

**Hevea**

**NDESG**
- Chair: Annemieke Spijkerman
- 11.30-12.00: Invited Lecture
  - Joline Bouleens: ‘Novel biomarkers for the prediction of diabetes complications’

**Hertog**

**NVCD**
- Chair: Sicco Bus
- 12.00-12.15: J. Doppenberg (LUMC)
  - Volume increase after day 1 culture of pancreatic islets: a marker for high quality islet isolation?

**Bilderberg I & II**

**PS5: Klinische diabetologie**
- Chair: Frits Holleman
- 11.30-12.00: B. De Galan (Radboud UMC)
  - Het zoet en zuur van hypoglykemiein

**TO BE CONT’D**

**12.45-14.00 Lunch break**
### Thursday 27 November 14.00-15.30 Parallel Sessions

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<td>PS6: Beta cell II</td>
<td>PS7: Insulin resistance II</td>
<td>PS10: Type I diabetes, fatty liver, renal function</td>
<td>PS9: NVCD Cont’d</td>
<td>PS11: Adipose tissue I</td>
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<tr>
<td>Chair: Eelco de Koning</td>
<td>Chair: Mariëtte Boon (VUMC)</td>
<td>Chair: Geerke Duijzer (VUMC)</td>
<td>Chair: Nicolaas Schaper (VUMC)</td>
<td>Chair: Johan Jocken</td>
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<td>14.00-14.15: J. Balak (LUMC)</td>
<td>14.00-14.15: E. Engweda (Radboud UMC)</td>
<td>14.00-14.15: A. Koopman (VUMC)</td>
<td>14.00-14.15: W. Dijk (WUR)</td>
<td>14.00-14.15: S. Bus (AMC)</td>
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<td>6. Identification and characterization of a putative progenitor cell subpopulation in the human adult duct cell compartment</td>
<td>7. A novel formula for the correction of substantial hyperglycaemia in adult patients with insulin-treated diabetes</td>
<td>1. The association between anti-GAD antibody levels and incident diabetes in a population-based cohort</td>
<td>1. Angptl4 is a regulator of lipid uptake in brown and white adipose tissue during cold exposure</td>
<td>4. Sub-calcaneal fat-pad infiltration and its effect on plantar pressures in the diabetic neuropathic foot</td>
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<td>7. Near normalization of the growth hormone-insulin-like growth factor axis with intra-peritoneal as compared to subcutaneous insulin therapy in type 1 diabetes</td>
<td>8. Satiating effects of meal intake on central activity in reward circuits is partly mediated by endogenous GLP-1 in patients with diabetes</td>
<td>2. A GE1 are associated with left ventricular function primarily in individuals with normal glucose metabolism – The Hoom Study</td>
<td>3. Cold acclimation increases whole-body insulin sensitivity with minor effects on brown adipose tissue activity in type 2 diabetes</td>
<td>2. Sphingosine kinase 1 is up-regulated in obese adipose tissue macrophages in response to lipid induced lysosomal dysfunction</td>
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<td>15.00-15.15: J. A. Zaldumbide (LUMC)</td>
<td>15.00-15.15: T. Sampimom (VUMC)</td>
<td>15.00-15.15: M. van Greevenbroek (MUMC)</td>
<td>15.00-15.15: I. Zwarts (MUMC)</td>
<td>15.00-15.15: L. van Dam (LUMC)</td>
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<tr>
<td>10. Role of ATF3 during auto-inflammatory reaction in human islets</td>
<td>11. Cross reactivity between short- and long working insulin analogues in patients with clinical immediate type insulin allergy</td>
<td>The terminal complement complex C5b-9, but not the anaphylatoxin C5a, is cross-sectionally associated with fatty liver disease – The CODAM Study</td>
<td>1. Angptl4 is a regulator of lipid uptake in brown and white adipose tissue during cold exposure</td>
<td>6. The anti-inflammatory drug salsalate reduces obesity and dyslipidemia by activating brown adipose tissue</td>
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<tr>
<td>11. The GIP receptor as a target for beta cell imaging</td>
<td>12. Obesity related IgG antibodies do play a role in the development of insulin resistance, however, not via the Fcγ-receptor pathway</td>
<td>6. Slope of GFR as clinical trial endpoint</td>
<td>6. The anti-inflammatory drug salsalate reduces obesity and dyslipidemia by activating brown adipose tissue</td>
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Thursday 27 November 16.15-17.05 Plenary Sessions

**Bilderberg**

16.15-17.05  Gerritzen Award Ceremony for best thesis on diabetes research  
Chair: Cees Tack

16.15-16.20  Introduction by the chairman

16.20-16.35  Renate van Genugten  
Glucocorticoid-induced diabetes: potential role for incretin-based therapies

16.35-16.50  Mariette Boon  
Turning up the heat: role of brown adipose tissue in metabolic disease

16.50-17.05  Nick Wlazlo  
Novel aspects of insulin resistance and type 2 diabetes mellitus: iron metabolism, the complement system and liver cirrhosis

17.05-17.30 Snack break

17.30-18.30  State-of-the-Art lecture I  
Chair: Matthijs Hesselink
Invited speaker: Dr. David Savage  
Congenital syndromes of severe insulin resistance, physiological lessons learnt from rare diseases

18.30-19.30  Dr. F. Gerritzen Award Ceremony (Cont’d)
18.30-18.35  Short address by sponsor
18.35-18.40  Announcement of the winner of the 29th Dr. F. Gerritzen Award
18.40-19.30  Dr. F. Gerritzen party, Rozenhage zaal

19.30-01.00 Dinner, drinks and music
### Friday 28 November 09.30-11.15 Parallel Sessions

#### Oosterbeek

**09.30-10.15**

- **NVDO/NASO**
  - PS6: Beta cell III (Con’t)
    - **Chair:** Daniël van Raalte
    - 9.30-9.45: M. Brom (Radboud UMC)
      1. In-111-exendin uptake in the pancreas correlates with the beta cell mass but not with the alpha cell mass
    - 9.45-10.00: J. Kracht (LUMC)
      1. Decreased nuclear integrity in pancreatic islet cells of old mice
    - 10.00-10.15: M. Roefs (LUMC)
      1. Evidence for epithelial-to-mesenchymal-transition (EMT) of both β-cells and α-cells in humans

#### Renkum

**09.30-10.15**

- **NVDO/NASO**
  - PS12: GI tract & Liver
    - **Chair:** Patrick Rensen
    - 9.30-9.45: I. Evers-van Gogh (UMCU)
      1. Nur77-induced crosstalk between muscle and liver and its effect on UGTP87 and TXNID3 expression
    - 9.45-10.00: P. Gilijamse (AMC)
      1. The effects of 4 weeks oral administration of omega-3 fatty acids on hepatic steatosis and insulin sensitivity in morbidly obese patients undergoing gastric bypass surgery
    - 10.00-10.15: S. Janssens (TUE)
      1. The novel natural PPARγ L451P mutation: unraveling the molecular mechanisms behind the clinical unresponsiveness to pioglitazone

#### Hevea

**09.30-10.15**

- **NVDO/NASO**
  - PS13: Food Intake, Obesity & Inflammation
    - **Chair:** Rinke Stienstra
    - 9.30-9.45: L. Steinbusch (Lausanne)
      1. Gender differences in glucokinase-dependent hypothalamic glucose sensing
    - 9.45-10.00: K. ter Horst (AMC)
      1. Identifying insulin-sensitive and resistant obesity in humans
    - 10.00-10.15: L. van Bloemendaal (VUMC)
      1. GLP-1 receptor activation alters central reward responses to anticipation and consumption of palatable food in humans

#### Bilderberg I & II

**09.30-10.15**

- **NVDO/NASO**
  - PS11: Adipose tissue II (Con’t)
    - **Chair:** Janna van Diepen
    - 9.30-9.45: M. Broekema (UMC)
      1. Gender differences in glucokinase-dependent hypothalamic glucose sensing
    - 9.45-10.00: J. Jocken (MUMC)
      1. Adipose tissue lipase deficiency contributes to mitochondrial dysfunction and insulin resistance in humans
    - 10.00-10.15: M. Kilicarslan (AMC)
      1. Adipose ChREBP-β expression increases after a hypercaloric diet and is associated with induction of GLUT4 expression

### 10.15-10.30 Coffee break

#### 10.30-10.45

- **M. Kracht (LUMC)**
  1. Preprinsulin processing and autoimmunity
- **W. Woliner-van der Weg (Radboud UMC)**
  1. SPECT imaging of 111In-Exendin uptake in patients with type 1 diabetes and healthy controls
- **P. de Groot (AMC)**
  1. Short-chain fatty acid metabolism and the gut microbiome in type 1 diabetes

#### 10.45-11.00

- **S. van der Tuin (LUMC)**
  1. Anacetrapib decreases (V)LDL-cholesterol by increasing the uptake of VLDL remnants by the liver
- **J. van Diepen (Radboud UMC)**
  1. Vanin-1 is involved in the development of glucose intolerance and insulin resistance during obesity independently of hepatic steatosis
- **V. J. van Zutphen (UMC)**
  1. GLP-1 receptor activation alters central reward responses to anticipation and consumption of palatable food in humans

### 11.00-11.15

- **S. Katiraei (LUMC)**
  1. FGF1, an old newcomer in the battle against diabetes
- **K. Wouters (MUMC)**
  1. CD11c+ adipose tissue macrophages are bone marrow-derived, nonproliferating cells with a mixed polarization phenotype that accumulate early during obesity
- **R. Vink (MUMC)**
  1. Diet-induced weight loss decreases adipose tissue oxygen tension and is accompanied by improved insulin sensitivity in overweight and obese individuals

### 11.45-12.00 Coffee break

#### 10.30-10.45

- **M. Boon (LUMC)**
  1. Short-term high-fat diet increases macrophage markers in skeletal muscle accompanied by impaired insulin signaling in healthy male subjects
- **J. Wouters (MUMC)**
  1. CD11c+ adipose tissue macrophages are bone marrow-derived, nonproliferating cells with a mixed polarization phenotype that accumulate early during obesity

#### 10.45-11.00

- **K. Wouters (MUMC)**
  1. CD11c+ adipose tissue macrophages are bone marrow-derived, nonproliferating cells with a mixed polarization phenotype that accumulate early during obesity
- **L. Boutens (WUR)**
  1. Evidence for the presence of the phagocytic machinery in adipose tissue

#### 11.00-11.15

- **M. Boon (LUMC)**
  1. Short-term high-fat diet increases macrophage markers in skeletal muscle accompanied by impaired insulin signaling in healthy male subjects
- **J. Wouters (MUMC)**
  1. CD11c+ adipose tissue macrophages are bone marrow-derived, nonproliferating cells with a mixed polarization phenotype that accumulate early during obesity

#### 11.45-12.00

- **D. Maessen (MUMC)**
  1. Glyoxalase-1 overexpression reduces body weight and adipokine expression, and improves insulin sensitivity in high-fat diet-induced obese mice
- **R. Vink (MUMC)**
  1. Diet-induced weight loss decreases adipose tissue oxygen tension and is accompanied by improved insulin sensitivity in overweight and obese individuals
### Friday 28 November 11.15-14.00 Plenary Sessions

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<td>Invited speaker: Dr. Katharine Owen</td>
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<td>Diagnosing monogenic diabetes: genes, biomarkers and inflammation</td>
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#### 13.00-13.15 Coffee break

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<td>13.15-13.30</td>
<td>L. Lindeboom (MUMC)</td>
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<td>1H-MRS derived skeletal muscle acetylcarnitine concentration at rest is associated with insulin sensitivity</td>
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<td>13.30-13.45</td>
<td>S. Udayappan (AMC)</td>
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<td>Intestinal Ralstonia pickettii drives visceral adipose inflammation and insulin resistance</td>
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<td>13.45-14.00</td>
<td>E. Canfora (MUMC)</td>
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<td>Colonic short chain fatty acids infusions promote fat oxidation and improve metabolic parameters in overweight males</td>
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### 14.00 Farewell lunch