

# **Annual Dutch Diabetes Research Meeting 2016**

**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)**

**1 - 2 December 2016  
Hotel de Bilderberg, Oosterbeek**

# Thursday 1 December 09.15-10.30 Parallel Sessions

08.00-13.15 Registration

09.15-10.30 NVDO/NASO

**PS1: Adipose Tissue Biology I**

**Chair: Gijs Goossens**  
Het Binnenhof

**9.15-9.30: Y. Xin (Maastricht)**

*1. Longitudinal associations of the alternative and terminal pathways of complement activation with obesity: The CODAM study*

**9.30-9.45: M. Brom (Nijmegen)**

*2. Glucose uptake in visceral adipose tissue is decreased in obese type 2 diabetic subjects compared to healthy obese subjects, as measured by 18F-FDG PET/CT*

**9.45-10.00: K. Nahon (Leiden)**

*3. Unravelling the cause of the type 2 diabetes epidemic in South Asians: role for the endocannabinoid system?*

**10.00-10.15: E. Kuipers (Leiden)**

*4. Derailment of the endocannabinoid system in diet-induced obesity starts in brown adipose tissue*

**10.15-10.30: H. v/d Zande (Leiden)**

*5. Helminth antigens improve insulin sensitivity in obese mice by promoting a STAT6-dependent type 2 immune response in white adipose tissue*

09.15-10.30 NVDO/NASO

**PS2: Cardiovascular Function and Biology I**

**Chair: Joris Hoeks**  
Bibliotheque

**9.15-9.30: E. Manders (Eindhoven)**

*6. High-fat diet feeding in mice may partially protect the heart from pressure overload induced heart failure*

**9.30-9.45: D. van Moorsel (Maastricht)**

*7. Bcll glucocorticoid receptor polymorphism is not associated with arterial stiffening and cardiac structure and function: the Hoorn & CODAM studies*

**9.45-10.00: A. Emanuel (A'dam)**

*8. Relationships between type 2 diabetes, neuropathy and microvascular dysfunction: evidence from patients with chronic idiopathic axonal polyneuropathy*

**10.00-10.15: M. Muskiet (A'dam)**

*9. Renal Effects of DPP-4 Inhibitor Linagliptin versus SU-Derivative Glimepiride in Metformin-Treated Overweight Type 2 Diabetes Patients: An 8-week, Randomized, Double-Blind Trial*

**10.15-10.30: N. Koks (R'dam)**

*10. Glucose-dependent leukocyte activation in familial hypercholesterolemia*

09.15-10.30 PSAD

**PS3: PSAD**

**Chair: Giesje Nef**  
The Lacock Abbey

**9.15-9.30: M. Eilander (Amsterdam)**

*11. Not parental well-being but parental diabetes behaviors and stress are related to glycemic control in youth with type 1 diabetes. Longitudinal data from the DINO study*

**9.30-9.45: L. Nguyen (Tilburg)**

*12. Emotional problems in adolescents with type 1 diabetes and their parents: Preliminary baseline results from the longitudinal Diabetes LEAP Study*

**9.45-10.00: C. Schmidt (A'dam)**

*13. Persons with diabetes from ethnic minorities differ in their vulnerability for emotional distress*

**10.00-10.15: B. Özcan (Rotterdam)**

*14. More diabetes distress in ethnic minorities*

**10.15-10.30: S. Westra (Leiden)**

*15. Depression and mortality among older adults with and without diabetes mellitus; 23 year after the start of the Longitudinal Aging Study Amsterdam*

09.15-10.30 NDESG

**PS4: metabolic risk factors for diabetes**

**Chair: Renée de Mutsert**  
The Oval Office

**9.15-9.30: C. Ruijgrok (A'dam)**

*18. Quantifying the association of glycaemic measures and fasting insulin with incident type 2 diabetes - The Hoorn Study*

**9.30-9.45: V. Boersma (Leiden)**

*19. The role of adiponectin in the association between overall and visceral adiposity and insulin resistance: the NEO study*

**9.45-10.00: R. Noordam (Leiden)**

*20. Low-grade systemic inflammation and type 2 diabetes mellitus: A Mendelian randomization study*

**10.00-10.15: T. Mulder (Leiden)**

*21. The separate contributions of visceral fat and liver fat to the incidence of type 2 diabetes*

**10.15-10.30: M. Bos (Leiden)**

*22. Thyroid signaling, insulin resistance and type 2 diabetes mellitus: a Mendelian randomization study*

9.15-10.30

**PS5: KLINISCHE DIABETOLOGIE**

**Voorzitter: Erik Serné**  
Zappeion/Megaron

**9.15-9.45:**

**Guy Rutten**

*LEADER-trial: consequenties voor de dagelijkse praktijk?*

**9.45-10.15:**

**Adriaan Kooy**

*Metformine: nieuwe inzichten in een beproefd medicijn*

**10.15-10.30:**

**Mattijs Out (Hoogeveen)**

*23. Metformin, methylmalonic acid and the risk of neuropathy: A Post-hoc Analysis of a Randomized Placebo-Controlled 4.3 year Trial*

10.30-11.15 Coffee break

# Thursday 1 December 11.15-12.30 Parallel sessions

## 11.15-12.30 NVDO/NASO

### PS6: Gastrointestinal and Liver Biology I

Chair: Emanuel Canfora  
Het Binnenhof

11.15-11.30: A. Janssen  
(Wageningen)

25. Modulation of the gut microbiota affects the development of non-alcoholic fatty liver disease: a possible role for bile acids

11.30-11.45: I. Zwarts  
(Groningen)

26. Intestinal PPAR-delta protects against diet-induced obesity, insulin resistance and dyslipidemia and is required for ligand-stimulated HDL biogenesis

11.45-12.00: E. van den Berg  
(Groningen)

27. Prevalence and determinants of non-alcoholic fatty liver disease in Lifelines: a large Dutch population cohort

12.00-12.15: J. Hoogerland

28. Glucose-6-phosphate: a novel regulator of hepatic bile acid synthesis

12.15-12.30: V. Nies  
(Groningen)

29. The role of ERK signaling in the metabolic effects of FGFI in vivo

12.30-12.45: P. de Groot  
(Amsterdam)

30. Gut microbiota, short-chain fatty acids and inflammatory characteristics in type 1 diabetes patients versus matched healthy controls

## 11.15-12.30 NVDO/NASO

### PS7: Life Style

Chair: Esther Phielix  
Bibliotheque

11.15-11.30: S. Daemen  
(Maastricht)

31. Differential changes in myocellular lipid droplet morphology between type 2 diabetes patients responsive or irresponsive to exercise training

11.30-11.45: J. Bolijn  
(Maastricht)

32. Sitting less versus more exercise on endothelial dysfunction in healthy, overweight subjects and subjects with type 2 diabetes

11.45-12.00: A. van Meijel  
(Nijmegen)

33. The effect of an automated bolus calculator on glucose variability and quality of life in people with diabetes treated with insulin pumps

12.00-12.15: K. Berk  
(Rotterdam)

34. Effect of body weight reduction on Lp(a) levels in obesity and type 2 diabetes

12.15-12.30: B. Duvivier  
(Maastricht)

35. Effects of interrupting sitting by light-intensity activities on insulin sensitivity, plasma lipids, cognition and mood

## 11.15-11.45 PSAD

### PS3: PSAD (CNT'D)

Chair: Giesje Nef  
The Lacock Abbey

11.15-11.30: R. Vos (Utrecht)

16. What determines treatment satisfaction of type 2 diabetes patients on insulin therapy from eight European countries?

11.30-11.45: E. de Koning  
(Leiden)

17. Personalised Diabetes Care: from diabetes monitoring to putting diabetes in a patient's context

## 11.45-12.30 NVCD

### PS8: NVCD

Chair: Edgar Peters  
The Lacock Abbey

12.00-12.15: M. Westra  
(Almelo)

36. Determinants of offloading in cast devices to reduce plantar pressure in the diabetic foot

12.15-12.30: J. Zwaferink  
(Amsterdam)

37. The effect of innovative footwear concepts on plantar pressure and patient satisfaction in high-risk diabetic patients

12.30-12.45: W. aan de Stegge  
(Amsterdam)

38. Prediction Model for Plantar Foot Ulcer Recurrence in High-Risk Diabetes Patients

12.45-13.00: R. Keukenkamp  
(Amsterdam)

39. Plantar foot pressures, footwear adherence, and ulcer recurrence in diabetic patients with Charcot foot deformity

## 11.15-12.30 NDESG

### PS9: Glycemic control & diabetic complications

Chair: Amber van der Heijden  
The Oval Office

11.15-11.30: S. Kurstjens  
(Nijmegen)

48. Determinants of hypomagnesemia in a cohort of patients with type 2 diabetes

11.30-11.45: A. Rutte  
(Amsterdam)

45. Poor socio-economic status equals poor glycemic control? Data from the Dutch Diabetes Pearl cohort

11.45-12.00: K. Smits  
(Groningen)

46. Association between prescribing quality indicators and intermediate outcomes in patients with type 2 diabetes

12.00-12.15: S. van Steen  
(Amsterdam)

47. The Hemoglobin Glycation Index as Predictor of Diabetes Related Complications in the AleCardio Trial

12.15-12.30: R. Vos  
(Utrecht)

44. Glucose regulation and use of glucose-lowering medication in the first 10 years after screen-detection of type 2 diabetes: findings from the ADDITION-Netherlands trial cohort

## 11.15-12.30

### PS5 (CNT'D): KLINISCHE DIABETOLOGIE

Voorzitter: Suat Simsek  
Zappeion/Megaron

11.15-11.45:

**Koen van Beers**

De waarde van continue glucosemonitoring met waarschuwingsalarm bij type 1 diabetes patiënten met 'hypoglycemia unawareness' (IN-CONTROL)

11.45-12.15:

**Nel Geelhoed-Duyvenstijn**

De waarde van flash glucosemonitoring bij type 1 diabetes patiënten

12.15-12.30

**J. Kropff (A'dam)**

24. Accuracy, longevity and glycaemic benefits of a long-term implantable continuous glucose sensor: a 180 day, prospective multi-centre pivotal trial

# Thursday 1 December 13.30-14.45 Parallel sessions

## 12.30-13.30 Lunch break

### 13.30-14.45 NVDO/NASO

#### PS10: Gastrointestinal and Liver Biology II

Chair: Johan Jocken  
Het Binnenhof

#### 1330-13.45: Z. Wang (Groningen)

49. *Inhibition of intestinal inflammation by 5-ASA protects against the development of NAFLD in Mice*

#### 13.45-14.00: N. Simons (Maastricht)

50. *A common gene variant in glucokinase regulatory protein interacts with glucose metabolism on diabetic dyslipidemia: the combined CODAM and Hoorn studies*

#### 14.00-14.15: E. Canfora (Maastricht)

51. *Twelve-week supplementation of galacto-oligosaccharides increased bifidobacteria in obese prediabetic adults, whereas insulin sensitivity and energy metabolism were not changed*

#### 14.15-14.30: Z. Li (Leiden)

52. *Butyrate via the gut-brain neuronal circuit reduces appetite and activates brown adipose tissue*

#### 14.30-14.45: K. Bouter (Amsterdam)

53. *Differential metabolic effects of butyrate in lean versus metabolic syndrome subjects.*

### 13.30-15.00 NVDO/NASO

#### PS11: Beta cell function and hypoglycemia

Chair: Maarten Brom  
Bibliotheque

#### 1330-13.45: J. Ellenbroek (Leiden)

54. *A-Kinase Anchoring Proteins in the Protection of Pancreatic Beta-cells from Cytokines*

#### 13.45-14.00: W. Top (Hoogeveen)

55. *Metformin and beta cell function in insulin-treated patients with type 2 diabetes: a randomized placebo-controlled 4.3 year trial*

#### 14.00-14.15: G. Dharmadhikari (Leiden)

56. *Effects of ageing on islet cell transcriptome signatures in mice*

#### 14.15-14.30: J. Ratter (Nijmegen/Wageningen)

57. *Pro-inflammatory effects of hypoglycemia in humans with or without diabetes*

#### 14.30-14.45: L. Joosten (Nijmegen)

58. *Non-invasive determination of the beta cell mass with <sup>111</sup>In-exendin-3 in rodent models for spontaneous type 1 diabetes*

#### 14.45-15.00: M. Greevenbroek (Maastricht)

59. *Activation of the alternative pathway of complement, represented by factor Bb, is longitudinally associated with beta-cell conservation in type 2 diabetes: the CODAM study*

### 13.30-14.45 NVCD

#### PS8: NVCD (CNT'D)

Chair: Nicolaas Schaper  
The Lacock Abbey

#### 13.30-13.45: O. Mennes (Almelo)

40. *Assessment of Microcirculation in the Foot of People with Diabetes with Laser Speckle Contrast Imaging*

#### 13.45-14.00: S. van Asten (Amsterdam)

41. *Complications during the treatment of diabetic foot osteomyelitis*

#### 14.00-14.15: L. Lavery (Amsterdam)

42. *The use of Erythrocyte sedimentation rate and C-reactive protein to distinguish acute infection in patients with diabetic foot osteomyelitis*

#### 14.15-14.45: Plenary lecture: J. van Baal

### 13.30-14.45 NDESG

#### PS12: LIFESTYLE RISK FACTORS FOR TYPE 2 DIABETES

Chair: Femke Rutters  
The Oval Office

13.30-14.00:

#### Plenary Lecture: Sabita Soedamah-Muthu

#### Food matrix relevance involving dairy products and diabetes?

#### 14.00-14.15: L. Vissers

60. *Is dairy product intake related to risk of type 2 diabetes? A pan-European Mendelian Randomisation study*

#### 14.15-14.30: A. Koopman (Amsterdam)

61. *The association between social jetlag, the metabolic syndrome and type 2 diabetes mellitus in a middle-aged population: the New Hoorn study*

#### 14.30-14.45: E. Walaszczyk (Amsterdam)

62. *DNA methylation markers associated with type 2 diabetes and glycemic traits: preliminary results of a replication study in the Lifelines cohort*

### 13.30-14.45 NVDO/NASO

#### PS13: Clinical session

Chair: Marten Engelse

#### 13.30-13.45: A. Kooy (Hoogeveen)

63. *Metformin and pharmacogenetics: the efficacy of polymorphisms on daily dose of insulin, glycemic control and metformin plasma levels - a post-hoc analysis of a 4.3 year RCT*

#### 13.45-14.00: J. de Maar (Zwolle)

64. *Once daily NPH insulin results in better glycemic control than short-acting sliding scale insulin in patients with glucocorticoid-induced hyperglycemia during chemotherapy*

#### 14.00-14.15: M. Nijhof (Leiden)

65. *Diazoxide to improve islet transplant survival improves survival in vitro and functionality in vivo*

#### 14.15-14.30: B. Uitbeijerse (Leiden)

66. *Fasting relative proinsulin secretion as a marker for  $\beta$ -cell secretory strain and  $\beta$ -cell function in patients with type 1 diabetes*

67. *PRISM: Pancreatic Islet Separation Machine. Faster, Compacter, High Yield Human Pancreatic Islet Isolations in a Novel Inline Method.*

# Thursday 1 December 15.15-16.15 Parallel sessions

## 14.45-15.15 Coffee break

**15.15-16.15  
NVDO/NASO**

**PS14: Adipose  
Tissue Biology II**

**Chair: Kristiaan Wouters  
Het Binnenhof**

**15.15-15.30: E. Nascimento  
(Maastricht)**

*68. Genetic markers of brown adipose tissue (BAT) and in vitro BAT activity in humans*

**15.30-15.45: K. Verboven  
(Maastricht)**

*69. Depot-specific adipose tissue morphology and inflammatory phenotype in obese insulin resistant and type 2 diabetic men*

**15.45-16.00: L. Tambyrajah  
(Leiden)**

*70. Biological clock strongly regulates brown adipose tissue activity: implications for postprandial triglyceride metabolism*

**16.00-16.15: Y. Wang  
(Leiden)**

*71. Butyrate prevents high fat diet-induced metabolic syndrome via inducing satiety and activating brown adipose tissue*

**15.15-16.15  
NVDO/NASO**

**PS15: Cardiovascular  
Function and Biology II**

**Chair: Ed Eringa  
Bibliotheque**

**15.15-15.30: E. van Bommel  
(Amsterdam)**

*72. One-year Treatment with Exenatide Twice- Daily Does Not Affect Renal Function Decline or Albuminuria Compared to Insulin Glargine in Metformin-Treated Type 2 Diabetes Patients: A Randomised, Controlled Trial*

**15.30-15.45: K. Thiem  
(Nijmegen)**

*73. The role of C-type-Lectin receptors in hyperglycemia accelerated atherosclerotic plaque formation*

**15.45-16.00: L. van Tonneijck  
(Amsterdam)**

*74. Postprandial Renal Effects of GLP-1 Receptor Agonist Lixisenatide versus Once- Daily Insulin Glulisine Added to Basal Insulin Glargine in Overweight Type 2 Diabetes Patients: an 8-Week, Randomised, Open-Label Trial*

**16.00-16.15: L. Janssen  
(Leiden)**

*75. HDL functionality in South Asians compared to white Caucasians*

**15.15-16.30 NVCD**

**PS8: NVCD (CNT'D)**

**Chair: Sicco Bus  
The Lacock Abbey**

**15.15-15.30: T. Busch-Westbroek  
(Amsterdam)**

*43. Effect of RANKL-antibody treatment in acute diabetic neuro-osteopathy (Charcot foot)*

**15.30-16.30:  
Charcot-Net Meeting**

**15.15-16.15  
NVDO/NASO**

**PS16: Brain**

**Chair: Bastiaan de Galan  
The Oval Office**

**15.15-15.30: C. Coomans  
(Leiden)**

*76. Doublecortin-like protein in hypothalamic tanocytes is involved energy homeostasis*

**15.30-15.45: H. Rooijackers  
(Nijmegen)**

*77. High-intensity interval exercise reduces awareness of hypoglycemia in patients with type 1 diabetes*

**15.45-16.00: M. van Agtmaal  
(Maastricht)**

*78. Prediabetes is associated with white matter abnormalities: the Maastricht study*

**16.00-16.15: M. Ruissen  
(Leiden)**

*79. Pre-transplant psychopathology predicts complications after simultaneous pancreas and kidney transplantation*

**15.15-16.30**

**ALV NIV-Diabeteskamer**

## 16.15-17.00 Snack break

# Thursday 1 December 17.00-20.00 Plenary Session

**17.00-17.50 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 Thesis Nominee A**

**17.20-17.35 Thesis Nominee B**

**17.35-17.50 Thesis Nominee C**

**17.50-18.05 Memorial Lecture**

**18.05-18.30 break**

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

**Prof. Dr. Michael Roden;  
Tissue-specific differences in energy metabolism in type 2 diabetes and non-alcoholic fatty liver disease**

**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 28<sup>th</sup> Gerritzen award**

**19.40-20.00 Drinks**

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

# Friday 2 December 9.15-10.00 Parallel sessions

08.30-09.15 Algemene Ledenvergadering NVDO

Hevea

09.15-10.00 NVDO/NASO

**PS17: Adipose tissue Biology III**

Chair: Janna van Diepen  
Zappeion/Megaron

9.15-9.30: H. van Eyk  
(Leiden)

80. Caloric restriction lowers plasma anandamide levels in patients with type 2 diabetes which is related to a reduction in subcutaneous adipose tissue

9.30-9.45: B. van der Kolk  
(Maastricht)

81. Effect of diet-induced weight loss on Angiopoietin-like protein 4 and adipose tissue lipid metabolism in overweight and obese humans

9.45-10.00: K. Wouters  
(Maastricht)

82. Adipose tissue macrophages induce hepatic neutrophil recruitment and macrophage accumulation in mice

09.15-10.00 NVDO/NASO

**PS18: Metabolism**

Chair: Daniël van Raalte  
Bibliotheque

9.15-9.30: E. Levin  
(Amsterdam)

83. Predicting response in insulin sensitivity upon lean donor fecal transplantation in metabolic syndrome subjects by identifying microbial biomarkers

9.30-9.45: Y. Bruls  
(Maastricht)

84. Improvement in metabolic flexibility by carnitine supplementation.

9.45-10.00: N. Vogelzangs  
(Maastricht)

85. Metabolic profiling of tissue-specific insulin resistance in obesity

09.15-10.00 NVDO/NASO

**PS19: Pathogenesis of insulin resistance**

Chair: Marcel Muskiet  
Het Binnenhof

9.15-9.30: A. Kalsbeek  
(Amsterdam)

86. The diurnal rhythm of adipose tissue gene expression is reduced in patients with type 2 diabetes

9.30-9.45: A. Gemmink  
(Maastricht)

87. Involvement of Perilipin 5 in the differential intramyocellular lipid storage pattern and insulin sensitivity in athletes and type 2 diabetics?

9.45-10.00: M. Schütten  
(Maastricht)

88. Aldosterone is not associated with metabolic and microvascular insulin sensitivity in abdominally obese, but otherwise healthy men

09.15-10.00 NVDO/NASO

**PS20: insulin resistance: unexpected players**

Chair: Lennart Tonneijck  
The Lacock Abbey

9.15-9.30: B. Guigas  
(Leiden)

89. Chronic intermittent hypoxia impairs insulin sensitivity but improves whole-body glucose tolerance by activating skeletal muscle AMPK in mice

9.30-9.45: D. Maessen  
(Maastricht)

90 Plasma methylglyoxal is associated with insulin resistance and reduces muscle insulin signaling by modification of insulin

9.45-10.00: D. Dahlmans  
(Maastricht)

91. Identifying microRNAs involved in the regulation of peripheral insulin sensitivity and skeletal muscle mitochondrial function

9.15-10.00 NVDO/NASO

**PS21: Disruption of glucose metabolism**

Chair: Rinke Stienstra  
The Oval Office

9.15-9.30: A. Houzelle  
(Maastricht)

94. MicroRNA-204 regulates mitochondrial turnover in C2C12 mouse skeletal muscle cell line

9.30-9.45: Y. Kusters  
(Maastricht)

93. NK-cells in visceral adipose tissue contribute to obesity-associated insulin resistance through macrophage polarisation and low-grade inflammation

9.45-10.00: A. Kalsbeek  
(Amsterdam)

92. Nocturnal light exposure acutely disrupts glucose metabolism

# Friday 2 December 10.00-10.45 Plenary Session

10.00-10.45 Plenary session: How to get your research funded

Bilderberg I & II

10.00-10.15: Diabetes Onderzoek Nederland (DON)

10.15-10.30: Diabetes Fonds Nederland (DFN)

10.30-10.45: Juvenile Diabetes Research Foundation (JDRF)

# Friday 2 December 10.45-11.15 Plenary Session

10.45-11.15 Terpstra Award ceremony

Chair: Bastiaan de Galan  
Zappeion/Megaron

10.45-11.00: Opening and Lecture By Kristiaan Wouters, Winner of the award in 2015

11.00-11.15: Announcement and lecture by the 2016 awardee

11.15-11.45 Coffee break

# Friday 2 December 11.45-13.30 Plenary Lecture & Best abstracts

11.45- 12.45

State-of-the-art-lecture II: Prof. Dr. Olle Korsgren:  
Novel insights in the etiology of Type 1 Diabetes with implications for future intervention trials  
Chair: Marten Engelse  
Zappeion/Megaron

12.45-13.15 NVDO/NASO

**BEST MEETING ABSTRACTS**

Chair: Erik Serné  
Zappeion/Megaron

12.45-13.00 **E. Wiegers (Nijmegen)**

*95. High-intensity interval training affects brain lactate levels during hypoglycemia in type 1 diabetes*

13.00-13.15 **K. ter Horst (Amsterdam)**

*96. Hepatic diacylglycerol-associated protein kinase C epsilon translocation links hepatic steatosis to hepatic insulin resistance in humans*

13.15-13.30 **K. van Galen (Amsterdam)**

*97. Methods for quantifying adipose tissue insulin resistance in humans*

13.30-14.00 Farewell lunch