Wednesday, 30 September 2009

08:30 – 09:00, Freud Hall
Opening Ceremony
Chair: T.R. Pieber, Austria, U. Smith, Sweden

9:00 – 9:30, Freud Hall
Presidential Address
U. Smith, Sweden

9:30 – 10:30, Freud Hall
44th Minkowski Lecture
Chair: U. Smith, Sweden
G. Perseghin, Italy: Ectopic fat: the result of the interaction between insulin resistance and energy metabolism?

10:30 – 11:00 Break
11:00 – 12:30, Freud Hall
OP 01 GLP-1 in the treatment of type 2 diabetes mellitus

Chair: M.A. Nauck, Germany, J.J. Nolan, Ireland

1 One-year exenatide treatment improves beta cell response in metformin treated patients with type 2 diabetes which is sustained after 5 weeks discontinuation of treatment
M.C. Bunck, A. Mari, A. Corner, B. Eliasson, R.M. Shaginian, Y. Wu, P. Yan, R.J. Heine, U. Smith, M.-R. Taskinen, H. Yki-Jarvinen, M. Diamant, Netherlands, Italy, Finland, Sweden, United States

2 A switch from twice-daily exenatide to once-daily liraglutide further improves glycaemic control in patients with type 2 diabetes on oral agents
J. Buse, G. Sesti, W.E. Schmidt, E. Montanya, Y. Xu, C. Chang, L. Blonde, J. Rosenstock, United States, Italy, Germany, Spain

3 Long-term sustained glycaemic control with liraglutide and glimepiride (both plus metformin), with added benefits of weight loss and less hypoglycaemia with liraglutide: 2-year LEAD-2 data
A. Frid, K. Hermansen, M. Nauck, N. Shah, T. Tankova, I. Mitha, M. Zdravkovic, D. Matthews, Sweden, Denmark, Germany, India, Bulgaria, South Africa, United Kingdom

4 Liraglutide is associated with a significantly greater improvement in glycaemic control than glimepiride in patients with highest baseline beta cell function
D.R. Matthews, A. Falahati, A.D. Toft, J. Meier, United Kingdom, Denmark, Germany

5 The DPP-4-inhibitor sitagliptin improves glucose tolerance in type 2 diabetes mellitus involving GLP-1 dependent and GLP-1 independent pathways
G. Kutscherauer, A. Bedorf, M. Nicolaus, B. Göke, J. Schirra, Germany

6 Incidence of acute pancreatitis in exenatide initiators compared to other antidiabetic drug initiators: a retrospective, cohort study
G. Bloomgren, D. Dore, R. Patterson, R. Noel, D. Braun, J. Seeger, United States
11:00 – 12:30, van Swieten Hall
OP 02 Prediction and prevention of type 2 diabetes mellitus

Chair: P.M. Humpert, Germany, J. Tuomilehto, Finland

7 The diabetes risk score outperforms fasting plasma glucose and glucose tolerance tests: combined results from the Inter99 and Botnia Studies
M.P. McKenna, V. Lyssenko, M. Rowe, R. Gerwien, J. Kolberg, M. Urdea, T. Hansen, T. Jørgensen, O. Pedersen, K. Borch-Johnsen, L. Groop, United States, Sweden, Denmark

8 The impact of body fat distribution and ectopic fat in determining different glucose tolerance categories
K. Kantartzis, J. Machann, F. Schick, C. Totsikas, A. Fritsche, H.-U. Häring, N. Stefan, Germany

9 Use of multiple metabolic and genetic markers to improve the prediction of type 2 diabetes: the EPIC-Potsdam study

10 Prevention of type 2 diabetes development by an IKKβ inhibitor
J. Friberg, M. Thonnesen, F. Pociot, T. B. Bödvarsdottir, A. E. Karlsen, Denmark

11 Dapagliflozin prevents the development of diabetes in male ZDF rats
B.A. Zinker, L. Xin, H. Cai, S. Boehm, M. Cap, J. Zalaznick, W.N. Washburn, S. Han, J.M. Whaley, United States

12 Liraglutide, a once-daily human GLP-1 analogue, reduces the prevalence of prediabetes in obese subjects over 20 weeks: a randomized placebo-controlled trial
N. Finer, M. Al Hakim, A. Astrup, A. Harper, M. Lean, L. Niskanen, M.F. Rasmussen, A. Rissanen, S. Rössner, L. Van Gaal and NN8022-1807 study group, United Kingdom, Netherlands, Denmark, Finland, Sweden, Belgium
11:00 – 12:30, Semmelweis Hall
OP 03 Diabetes education and management
Chair: A. Golay, Switzerland, F.J. Snoek, Netherlands

13 Cost effectiveness of the DESMOND structured education programme for patients newly diagnosed with type 2 diabetes
M. Gillett, H.M. Dallosso, S. Dixon, A. Brennan, M.E. Carey, M.J. Campbell, S. Heller, K. Khunti, M.J. Davies, United Kingdom

14 Economic impact of modular outpatient diabetes education programme
J. Pumprla, K. Howorka, N. Howorka, E. Perneczky, I. Rakovac, Austria

15 Validating a diabetes specific quality of life measure in an English speaking population: the Irish Dose Adjustment for Normal Eating (DAFNE) Study
M. O'Hara, M. Byrne, M. Clark, L. Daly, J. Newell, D. Cooke, S. Heller, S. Dinneen for the Irish DAFNE Study Group Ireland, United Kingdom

16 Depression and sense of coherence are associated with food intake and compliance with dietary guidance in type 1 diabetes
A.J. Ahola, V. Mikkilä, S. Mäkimattila, M. Saraheimo, C. Forsblom, R. Freese, P.-H. Groop on behalf of the Finndiane Study Group, Finland

17 Effects of group-based lifestyle rehabilitation on glycaemic control, physical fitness and risk factors for cardiovascular disease in patients with type 2 diabetes
E.S. Vadstrup, A. Frølich, H. Perrild, E. Borg, M. Røder, Denmark

18 Motivational enhancement therapy with and without cognitive behaviour therapy to treat type 1 diabetes: the long-term outcomes of a randomised controlled trial
K. Ismail, G. Lawrence-Smith, Y. Cheah, K. Winkle, R. Yadav, S. Thomas, J. Bartlett, United Kingdom
11:00 – 12:30, Landsteiner Hall
OP 04 Diabetes and the heart
Chair: A. Avogaro, Italy, N. Marx, Germany

19 Myocardial function and myocardial lipid accumulation in insulin resistant and type 2 diabetic women
M. Krssak, Y. Winhofer, C. Göbl, M. Bischof, G. Reiter, A. Kautzky-Willer, A. Luger, M. Krebs, C. Anderwald, Austria

20 Glucosamine increases hexosamine biosynthesis and O-linked N-acetylglucosamine in the heart, and leads to metabolic alterations similar to those seen in diabetic cardiomyopathy
N. Fülöp, B. Laczy, A. Onay-Besikci, C. Des Rosiers, R.B. Marchase, J.C. Chatham, Hungary, United States, Turkey, Canada

21 Rats with experimental diabetic cardiomyopathy develop diastolic heart failure that is ameliorated by the direct renin inhibitor, aliskiren
K. Connelly, D.J. Kelly, Y. Zhang, K. Thai, A. Advani, R.E. Gilbert, Canada, Australia

22 Ablation of fatty acid transporter CD36 protects against western type diet-related cardiac dysfunction following pressure overload in mice: modeling diabetic cardiomyopathy

23 Predictors of glucose lowering therapy intensification among patients with diabetes hospitalized with acute myocardial infarction

24 Secretory products of epicardial fat induce insulin resistance and impair cardiomyocytes function
S. Greulich, D. Herzfeld de Wiza, H. Müller, H. Sell, Z. Ding, S. Preilowski, K. Jaquet, J. Eckel, Germany
11:00 – 12:30, Cori Hall
OP 05 Genes, autoimmunity and type 1 diabetes

Chair: F. Pociot, Denmark, P. Pozzilli, Italy

25 Predictors of associated autoimmune diseases in families with type 1 diabetes. Results from the type 1 diabetes genetics consortium (T1DGC)
J.C. Wiebe, Á. Santana, M. Hernández, J. Nóvoa, D. Mauricio, A.M. Wägner, T1DGC, Spain

26 Prognostic relevance of autoantibody-based screening in the general population - results from the Karlsburg type 1 Diabetes Risk Study after 14 years
A.-M. Hoss, H. Kenk, U. Walschus, J. Heide, R. Wassmuth, M. Schlosser, Germany

27 Genome-wide mapping of variants associated with type 1 diabetes nephropathy

28 A genome-wide SNPxSNP search for epistasis identifies gene-gene interaction in type 1 diabetes
C.A. Brorsson, L.L. Field, E. Swiergala, J. Høiriis Nielsen, T. Werge, R. Bergholdt, F. Pociot, Denmark, Canada

29 Strong association between SLC30A8 gene variant and ZnT8 autoantibody specificity during disease progression in two independent cohorts of children with newly diagnosed type 1 diabetes

30 Gene expression differences in pancreas and brain between diabetes-prone BB/OK rats and their diabetes protected congenic BB.6S derivatives
I. Klötting, B. Wilke, Germany
11:00 – 12:30, Halban Hall
OP 06 Inflammation, insulin action and type 2 diabetes

Chair: M. Federici, Italy, T.M. Stulnig, Austria

31 Mice lacking lipocalin-2 are protected from developing insulin resistance associated with aging and obesity
I.K. Law, A. Xu, K.S. Lam, T. Berger, T.W. Mak, J.T. Liu, G. Sweeney, M. Zhou, Y. Wang, Hong Kong, Canada

32 Chronic apelin treatment effects on lipid metabolism in wild type and insulin-resistant mice
C. Attane, R. Guzman-Ruiz, S. Le Gonidec, V. Bézaire, D. Daviaud, C. Dray, M. Ruiz-Gayo, P. Valet, I. Castan-Laurell, France, Spain

33 Circulating visfatin levels reduced in patients with non-alcoholic fatty liver disease irrespective of type 2 diabetes mellitus status

34 Chemerin as an adipokine related to insulin resistance: chemerin decrease after bariatric surgery in morbidly obese patients
H. Sell, A. Divoux, K. Clément, J. Eckel, Germany, France

35 Adipokines induce degradation of IRS-1 in megakaryocytes resulting in insulin-resistant platelets

36 Acceleration of the interleukin-1 receptor antagonist (IL-1Ra) trajectory precedes the diagnosis of type 2 diabetes by 6 years: the Whitehall II prospective cohort study
M. Carstensen, C. Herder, M. Kivimaki, M. Jokela, M. Roden, M. Shipley, D.R. Witte, E.J. Brunner, A.R. Tabak, Germany, United Kingdom, Denmark, Hungary
11:00 – 12:30, Basch Hall
OP 07 Beta cell generation and loss

Chair: M. Solimena, Germany, B. Thorens, Switzerland

37 Perinatal survivin expression is essential for the establishment of pancreatic beta cell mass  X. Wu, L. Wang, S. Schroer, D. Choi, P. Chen, H. Okada, M. Woo, China, Canada

38 Regulation of beta cell mass during early life in somatostatin-deficient mice C.C. Richardson, K. To, V. Foot, E. Shamil, W. Jefferson, D. Carmignac, I.C. Robinson, M.R. Christie, United Kingdom

39 IGF-II reexpression in adult mice is essential for beta cell regeneration in vivo L. Zhou, S. Pelengaris, S. Abouna, J. Young, D.B. Epstein, M. Khan, United Kingdom

40 Islet cell proliferation is increased in human recent onset type 1 diabetes A.J. Willcox, S.J. Richardson, A.J. Bone, A.K. Foulis, N.G. Morgan, United Kingdom

41 Human islets contain a population of mesenchymal stem cell capable of differentiation toward the endocrine lineage F. Carlotti, A. Zaldumbide, C.J. Loomans, M. Engelse, E. Van Rossenbergh, E.J. De Koning, R.C. Hoeben, Netherlands

12:45 – 13:45, Poster Event A

**PS 001 Genetics of type 1 diabetes**

Chair: J. Ilonen, Finland

253 Bayesian network to investigate the dependency and interaction between HLA, INS, PTPN22 and CTLA4 genes in type 1 diabetes

254 Both isolated type 1 diabetes and polyautoimmune beta cell failure of APS2 share the same susceptibility profile at gene loci: HLA DR, CTLA4, and INS in the T1DGC dataset
K. Badenhoop, H. Kahles, E. Ramos-Lopez, B. Boehm, T1DGC, Germany

255 HLA Class I allele B39 defines the rate of progression of autoimmunity in children with HLA-DRB1*0404-DQB1*0302 haplotype
K. Lipponen, Z. Gombos, R. Hermann, R. Veijola, O. Simell, M. Knip, J. Ilonen, Finland

256 Capture of type 1 diabetes-susceptible HLA-DR-DQ haplotypes in Japanese by tag single nucleotide polymorphisms
K. Nakanishi, C. Watanabe, Y. Shima, Japan

257 KIR genes confer susceptibility to type 1 diabetes in Swedish patients positive for Coxsackie virus B antibodies
S.K. Sedimbi, S.K. Vasan, D. Zhi, C.B. Sanjeevi, Sweden, India, China

258 Novel polymorphism in the PTPN2 gene is associated with type 1 diabetes mellitus in Russian patients
Y.A. Seregin, E.Y. Lavrikova, A.G. Nikitin, L.I. Zilberman, T.L. Kuraeva, V.V. Nosikov, Russian Federation

259 CNDP1 gene polymorphism predicts progression from nephropathy to end-stage renal disease in type 1 diabetes mellitus
A. Alkhalaf, S.J. Bakker, N. Vionnet, P. Rossing, H.J. Bilo, G.J. Navis, L. Tarnow, Netherlands, France, Denmark

260 Genetic effects of MCF2L2 Leu359Ile polymorphism on diabetic nephropathy
H.F. Gu, S. Efendic, K. Brismar, Sweden

261 Polymorphism of glutamate-cysteine ligase catalytic subunit (GCLC) and glutathione peroxidase 3 (GPX3) genes as risk factors for overt nephropathy in type 1 diabetes mellitus
PS 007 Epidemiology of obesity and type 2 diabetes

Chair: B. Balkau, France

310 How much do we know about obesity and diabetes? A survey of British male drivers
J. Deville-Almond, A.A. Tahrani, J. Grant, M. Gray, N. Thomas, S. Taheri, United Kingdom

311 Differential effects of ethnicities on the relationship between body mass index and insulin resistance in Singapore

312 Obesity is associated with poorer clinical outcomes following insulin initiation for patients with type 2 diabetes
S. Kumar, B. Wilson, L. Watson, J. Alsop, United Kingdom

313 High prevalence of obesity in the Spanish working population. Results from ICARIA study
A. Goday, E. Calvo, M.A. Sánchez, M. Cabrera, S. Santamaría, R.M. Pozas, N. Duque, J. Reviriego, A. Grande, D. Socarrás, Spain

314 Predictors of drug choice in newly diagnosed type 2 diabetes
A. Hutchison, D. Russell-Jones, C.S. De Vries, United Kingdom

315 Hospital insulin therapy is associated with a reduced rate of mortality

316 25-hydroxyvitamin D levels and association with all-cause mortality in patients with type 2 diabetes mellitus
H. Dobnig, S. Pilz, H. Schramagl, W. Renner, U. Seelhorst, B. Wellnitz, A. Fahrleitner-Pammer, B.O. Böhm, W. März, Austria, Germany
PS 013 Signalling of beta cell damage

Chair: A. Tengholm, Sweden

362 The effect of glucose variability on INS-1 cell apoptosis and the involvement of FOXO-SIRT system
M. Kim, H. Jung, C. Yoon, J. Ko, H. Jun, T. Kim, M. Kwon, S. Lee, K. Ko, B. Rhee, J. Park, Republic of Korea

363 Transcriptome analysis of human type 2 diabetic islets
M. Bugliani, R. Liechti, L. Marselli, U. Boggi, F. Filipponi, I. Xenarios, P. Marchetti, Italy, Switzerland

364 The role of iron in IL-1β induced NFκB activity and iNOS expression in pancreatic beta cells
A.Ø. Nielsen, M.F. Tonnesen, N. Billestrup, T. Mandrup-Poulsen, Denmark

365 The orphan receptor GPR30 and pancreatic islet hormone secretion
A.F. Balhuizen, R. Kumar, S. Amisten, I. Lundquist, A.S. Salehi, Sweden

366 Effect of angiotensin II on the insulin signalling pathway in NIT-1 cells
M.-T. Xu, L. Zhang, L.-D. Jiang, S. He, L. Yan, H. Cheng, China

367 Apoptosis in INS-1E cells after ZnT-3 and ZnT-8 knock-out
A.B. Petersen, K. Smidt, N.E. Magnusson, B. Brock, O. Schmitz, J. Rungby, Denmark

368 Systemic osteoprotegerin delivery induces pancreatic islet structural and functional alterations in non-diabetic mice
R. Candido, B. Toffoli, S. Bernardi, P. Secchiero, F. Corallini, E. Caroli, E. Manca, A. Petrucco, C. Montesi, R. Carretta, G. Zauli, B. Fabris, Italy

369 PTPN2 and MDA5, two candidate genes for type 1 diabetes, modify beta cell responses to double-stranded RNA
M.L. Colli, F. Moore, E.N. Gurzov, F. Ortis, D.L. Eizirik, Belgium

370 XOMA 052, a monoclonal antibody that regulates interleukin-1 beta (IL-1 beta) activity: an example of a new class of regulatory antibody drugs that may confer a unique advantage in the treatment of type 2 diabetes mellitus
**PS 019 Beta cell transcriptional regulation**

Chair: P. Maechler, Switzerland

421 Pancreatic duodenum homeobox-1 (PDX1) is phosphorylated in living pancreatic beta cells (MIN6) at serine 269
F. Semplici, R. An, G. DaSilvaXavier, F. Meggio, M. Pagano, L.A. Pinna, G.A. Rutter, United Kingdom, Italy

422 Conditional overexpression of Pax4 in pancreatic beta cells protects mice from developing streptozotocin-induced diabetes
K. Hu He, D. Aeberhard, P. Meda, B.R. Gauthier, Switzerland

423 Regulation of the wnt signalling pathway by endocrine differentiation bHLH factors
G. Pujadas, M. Ejarque, L. Sánchez, J. Altirriba, R. Gomis, R. Gasa, Spain

424 Wnt/Klotho interaction regulates the proliferation of pancreatic beta cells
S. Schinner, F. Ülgen, W.A. Scherbaum, Germany

425 β-catenin as a novel glucose-sensor in INS1E beta cells
E. Cognard, P.R. Shepherd, New Zealand

426 Signalling in islets isolated from individuals with type 2 diabetes mellitus
P. Bergsten, H.K. Nyblom, M. Bugliani, E. Fung, U. Boggi, P. Marchetti, R. Zubarev, Sweden, Italy

427 The protein tyrosine phosphatase, PTP-BL, interacts with the Wnt signalling pathway to regulate cell proliferation in INS-1 cells
A.R. Oknianska, H.J. Welters, N.G. Morgan, United Kingdom

428 Evaluation of histology pattern recognition and color deconvolution image analysis of beta cell and islet area
K.L. Lillard-Wetherell, United States

429 Human beta cell sorting for characterisation of beta cell specific transcripts and functions
C. Kirkpatrick, P. Marchetti, M. Bugliani, F. Pattou, J. Kerr-Conte, C. Wollheim, Switzerland, Italy, France

430 Orexin-A stimulates insulin secretion and proinsulin gene expression
E. Göncz, S. Mergler, F. Hofmann, B.F. El-Zayat, B. Wiedenmann, M.Z. Strowski, Germany
PS 025 Immunoprevention in type 1 diabetes

Chair: F. Pociot, Denmark

474 GAD_{65} treatment induces high GADA but no changes in epitopes or adverse signs/symptoms in type 1 diabetic children
J. Ludvigsson, C. Skoglund, M. Cheramy, R. Casas, C. Hampe, Sweden, United States

475 Effect of combined oral protease and flavonol treatment in persons at risk for type 1 diabetes

476 Evaluation of different regimens of a chimeric/humanized aglycosylated anti-CD3 monoclonal antibody (MAb), otelixizumab, in subjects with type 1 diabetes mellitus
M. Rosenzweig, D. Mehta, D. Forman, C. McKee, L. Vaickus, United States

477 C-Peptide response and HLA genotypes in subjects with recent onset type 1 diabetes following immunotherapy with diapep277
R. Buzzetti, S. Cernea, A. Petrone, M. Spoletini, S. Zampetti, C. Guglielmi, C. Venditti, P. Pozzilli, Italy

478 Treatment with alum-formulated GAD65 in type 1 diabetic children results in early induction of Th2 responses
S. Axelsson, M. Hjorth, L. Åkerman, J. Ludvigsson, R. Casas, Sweden

479 GAD-alum treatment induces GAD-specific FOXP3^+ cells in type 1 diabetic children
M. Hjorth, S. Axelsson, J. Ludvigsson, R. Casas, Sweden

480 Characterisation of patients with new onset diabetes and prospective follow-up from birth to diabetes onset
M. Hummel, H. Boerschmann, E. Storz, A.G. Ziegler, Germany

481 Prevention of autoimmune diabetes mellitus by modulatory antibodies in the LEW.1AR1-iddm rat: protective effects of CD4 modulation and diabetes aggravation by CTLA-4 agonism
H. Weiss, A. Siepert, M. Lehmann, M. Tiedge, Germany

482 Specific immunomodulatory effect of GAD_{65} in type 1 diabetics
R. Casas, M. Hjorth, S. Axelsson, M. Chéramy, M. Pihl, J. Ludvigsson, Sweden
PS 031 Clinical physiology of insulin sensitivity

Chair: I. Tkac, Slovakia

523 Gender effect on insulin sensitivity and secretion in different categories of glucose tolerance
A. Kautzky-Willer, A.R. Brazzale, A. Tura, J. Vrbikova, B. Bendlova, E. Moro, G. Pacini, Austria, Italy, Czech Republic

524 Association of elevated serum ferritin concentration with insulin resistance and impaired glucose metabolism in Koreans

525 Ferritin concentrations, type 2 diabetes, metabolic syndrome and insulin resistance in a Chinese population
Y. Ren, Y.Y. Liu, China

526 Independent association between the renin angiotensin aldosterone system and insulin resistance
A. Tomaschitz, S. Pilz, B.R. Winkelmann, B.O. Boehm, W. Maerz, Austria, Germany

527 The effect on insulin action of the angiotensin converting enzyme inhibitor captopril combined with either a calcium channel blocker, amlodipine, or low dose thiazide, bendroflumethiazide
C.M. McHenry, C.N. Ennis, S.J. Hunter, A.B. Atkinson, P.M. Bell, United Kingdom

528 A double-blind, placebo-controlled, crossover study to evaluate the effects of multiple doses of prednisone on insulin sensitivity in healthy lean males

529 Evaluating effect of insulin resistance and beta cell function in a pioglitazone and metformin fixed-dose combination study
R. Spanheimer, Z. Zhao, A. Perez, United States

530 Pioglitazone and sitagliptin compared to pioglitazone and metformin therapy on glycaemic control and on insulin resistance in type 2 diabetic patients
G. Derosa, A. Cicero, P. Ragonesi, S. Salvadeo, I. Ferrari, F. Querci, I. Franzetti, G. Gadaleta, L. Ciccarelli, M. Piccinni, A. D'Angelo, R. Fogari, Italy

531 A comparison between metabolic and vascular effects of simvastatin and rosuvastatin in patients with type 2 diabetes
A. Bellia, A. Galli, S. Rizza, R. Fabiano, R. Rossi, M. Lombardo, M. Tesauro, M. Federici, P. Sbraccia, D. Lauro, Italy
PS 037 Insulin secretion in vivo

Chair: J.A. Romijn, Netherlands

575 Bromocriptine acutely decreases glucose-stimulated insulin secretion in mice
J.E. De Leeuw van Weenen, E.T. Parlevliet, M. Ouwens, P. Maechler, J.A. Romijn, H. Pijl, B. Guigas, Netherlands, Switzerland

576 Nateglinide stimulated oral glucose tolerance test for functional assessment of residual beta cell capacity in type 2 diabetes
J. Reusch, A. Wilms, S. Boehncke, K. Badenhoop, Germany

577 Stimulation of insulin secretion and enhancement of insulin action, in vivo, by a small molecule glucokinase activator
R.C. Camacho, S. Qureshi, X. Yang, J.-I. Eiki, B.B. Zhang, United States, Japan

578 Decreased insulin hepatic extraction in women with polycystic ovary syndrome and study of influence of TCF7L2 gene variant
M. Vankova, J. Vcelak, P. Lukasova, K. Dvorakova, J. Vrbikova, B. Bendlova, G. Pacini, Czech Republic, Italy

579 Common variant on 1q24.2 (187cM) affects insulin secretion of beta cells and lipid spectrum in French-Canadian and Czech populations
J. Vcelak, O. Seda, M. Vankova, P. Lukasova, J. Vrbikova, J. Tremblay, B. Bendlova, P. Hamet, Czech Republic, Canada

580 C-Peptide correction method to determine exogenous insulin levels in pharmacokinetic studies using Technosphere insulin
A. Boss, M. Marino, J. Cassidy, R. Baughman, P. Richardson, United States
PS 043 Sex hormones and metabolism

Chair: J.-F. Gautier, France

611 Menopausal hormone therapy and new-onset diabetes in the French E3N cohort
B. De Lauzon-Guillain, A. Fournier, A. Fabre, N. Simon, S. Mesrine, M.-C. Boutron-Ruault, B. Balkau, F. Clavel-Chapelon, France

612 Hyperandrogenism is associated with an increased risk for type 2 diabetes and metabolic disturbances in a large cohort of postmenopausal women
E. Wehr, N. Schweighofer, S. Pilz, M. Winfried, B.O. Boehm, B.R. Winkelmann, B. Obermayer-Pietsch, Austria, Germany

613 Progesterone directly affects mitochondrial function - a mechanism relevant to gestational adaptations of glucose metabolism?
C. Fürnsinn, K. Staniek, K. Stadlbauer, Z. Szöcs, A. Luger, B. Brunmair, Austria

614 Short-term changes in serum sex steroid levels affect postprandial triglyceride metabolism in healthy young men

615 Role of sex hormones in insulin resistance - a lesson from the Aromastase Knockout (ArKO) mouse

616 Estradiol derivative PE0607 decreases visceral obesity and improves insulin sensitivity in ovariectomized rats fed on a high fat diet
N. Gorbenko, K. Taran, A. Borikov, S. Oksenenko, O. Ivanova, A. Stepanova, F. Yaremenko, Ukraine
PS 049 Fat depots and body composition

Chair: N. Stefan, Germany

664 Search for low-frequency variants associated with overall and central adiposity
C.M. Lindgren, S. Ripatti, E. Zeggini, L. Peltonen, M.I. McCarthy, A.P. Morris, United Kingdom, Finland

665 Regulatory mechanisms for adipose tissue M1 and M2 macrophages in diet-induced obese mice
K. Tobe, I. Usui, Y. Kanatani, S. Fujisaka, S. Senda, B. Agussalim, Y. Yamazaki, H. Suzuki, M. Iwata, M. Ishiki, M. Urakaze, Japan

666 Fat depot-specific differences in inflammatory markers in lean and obese insulin resistant pregnant rats

667 The gene expression of the main lipogenic enzymes is down-regulated in visceral adipose tissue of obese subjects

668 Insulin sensitivity correlates with visceral adipose tissue heme oxygenase-1 expression that is determined by hip to waist ratio
M. Zeyda, S. Shakeri-Manesch, J. Huber, B. Ludvik, G. Prager, T.M. Stulnig, Austria

669 Gene expression of glucagon-like peptide 1 receptor in visceral and subcutaneous adipose tissue. Decreased expression in obesity
A. Megia, E. Caubet, S. Náf, E. Solano, M. Alcaide, F. Tinahones, M. Miranda, V. Vicente, J.M. Fernandez-Real, J. Vendrell, Spain

670 Neck fat area is strongly associated with insulin resistance
C. Thamer, J. Machann, H. Staiger, N. Stefan, F. Schick, A. Fritsche, H.-U. Haring, Germany

671 Diabetes mellitus type 2 is associated with a redistribution of fat mass in postmenopausal women

672 Low relative skeletal muscle mass is independently associated with insulin resistance in Korean diabetic patients
Y. Choi, S. Choi, S. Park, D. Kim, C. Kim, S.-H. Jee, E.-J. Lee, S. Lee, B. Huh, K. Huh, Republic of Korea

673 Body composition in type 1 and type 2 diabetes patients with similar body mass index
R. Lichiardopol, A. Florentiu, C. Pencea, R. Nafornita, A. Nicoara, Romania
PS 055 Secretory function of adipose tissue

Chair: M. Blüher, Germany

721 Profiling of adipokine secretion by adipose tissue in transgenic mice with homotopic overexpression of adiponectin
Q. Ge, L. Noel, E. Maury, L. Rycken, S. Brichard, Belgium

722 Regulation of the expression of angiopoietin-like protein 4 mRNA in diabetic mice
N. Mizutani, N. Ozaki, Y. Seino, T. Fukuyama, E. Sakamoto, Y. Oiso, Japan

723 N°-(Carboxymethyl)lysine trapping in adipose tissue in obesity: implications for obesity-associated changes in adipokine expression

724 AQP7 gene expression profile in context of obesity and type 2 diabetes mellitus. Relationship with lipogenic and lipolytic genes in subcutaneous and visceral fat
V. Ceperuelo-Mallafré, M. Miranda, M.R. Chacón, E. Caubet, E. Solano, I. Simón, J. Fernández-Real, J. Vendrell, Spain

725 Circulating and adipose tissue gene expression of zinc-alpha2-glycoprotein in obesity. Its relationship with adipokine and lipolytic gene markers in subcutaneous and visceral fat

726 Insulin resistance in hyperthyroidism: the role of cytokines
E.G. Tsegka, P. Mitrou, G. Dimitriadis, V. Lambadiari, E. Maratou, E. Boutati, T. Economopoulos, S.A. Raptis, Greece

727 The weight sparing effect of insulin detemir is associated with increased adiponectin levels and decreased adiposity in the diabetic ZDF rat

728 Human adipocyte-secreted factors and vascular smooth muscle cell proliferation: an integrated proteome analysis
S. Lehr, S. Hartwig, D. Lamers, H. Sell, W. Paßlack, J. Eckel, Germany
**PS 061 Incretins pharmacology and pharmacokinetics**

Chair: R.C. Bonadonna, Italy

774 Comparative pharmacology of the Dipeptidyl Peptidase-4 (DPP-4) metabolites of GLP-1 and the GLP-1 analogue, liraglutide

775 Liraglutide, the once-daily human GLP-1 analogue, has a protracted profile based on both delayed absorption and a long plasma half-life

776 Effect of the GLP-1 receptor agonist AVE0010 on the absorption of concomitant oral drugs: acetaminophen and ethinylestradiol/levonorgestrel
Y.-H. Liu, P. Ruus, Germany

777 Liraglutide pharmacokinetic profile following s.c. dosing is unaltered by co-administration with sitagliptin in Göttingen minipigs
F.S. Nielsen, L. Ynddal, C. Rosenquist, J. Drstrup, L. Bjerre Knudsen, Denmark

778 Inhaled GLP-1 and exenatide: different effects on pancreatic and gastric activity following a single dose in type 2 diabetes mellitus
R. Baughman, D. Costello, M. Marino, J. Cassidy, A. Boss, C. Damico, P. Haworth, P. Richardson, J. Van de Wetering, A. Van Vliet, United States, Netherlands

779 Response to inhaled GLP-1 is dependent on baseline glucose
D. Costello, R. Baughman, M. Marino, J. Cassdiy, A. Boss, C. Damico, P. Haworth, P. Richardson, A. Van Vliet, United States, Netherlands

780 A phase 1b study of ITCA 650: continuous subcutaneous delivery of exenatide via DUROS® device lowers fasting and postprandial plasma glucose
K. Luskey, J. McNally, J. Dahms, D. Logan, G. Weiner, D. Denham, T. Alessi, United States

781 Safety, tolerability, pharmacokinetics, and insulinotropic activity of single subcutaneous doses of LY2189265, a long-acting glucagon-like peptide 1 analogue in healthy subjects
P. Barrington, J. Chien, F. Tibaldi, H. Showalter, K. Schneck, B. Ellis, United Kingdom, United States, Belgium

782 Pharmacokinetics, pharmacodynamics, safety and tolerability of single dose exenatide in very elderly patients (≥75 years) with type 2 diabetes
H. Linnebjerg, P.A. Kothare, M. Seger, M. Mitchell, United Kingdom, United States
824 Impact of a brief lifestyle advice intervention on physical activity  
H.C. Price, S.J. Griffin, R.R. Holman, United Kingdom

825 Implementation and effectiveness of the first community lifestyle intervention program to prevent type 2 diabetes in Greece. The DEPLAN Study  
K. Makrilakis, S. Liatis, S. Grammatikou, D. Perrea, N. Katsilambros, Greece

826 One risk questionnaire to identify persons at risk for cardiovascular disease and type 2 diabetes - the Hoorn Study  
M. Alssema, G. Nijpels, C.D. Stehouwer, J.M. Dekker, Netherlands

827 Leicestershire self assessment score for impaired glucose regulation for use in a multi ethnic setting  
L.J. Gray, M.J. Davies, N. Taub, S. Hiles, K. Khunti, United Kingdom

828 Automated detection of high risk for impaired glucose regulation and type 2 diabetes mellitus, using primary care electronic data, in a multi-ethnic UK community setting  
N.A. Taub, K. Khunti, K.R. Abrams, L.G. Gray, S.L. Hiles, M.J. Davies, United Kingdom

829 Risk and predictors of deterioration of glucose metabolism in subjects with and without CV complications - a prospective observational study  

830 Serial measurement of fasting and postload glucose and HbA₁c in subjects who did and did not develop diabetes during a 10-year period in the Hoorn Study  
J.M. Dekker, C.D. Stehouwer, G. Nijpels, Netherlands

831 Prediction of rapid and slow progression from IFG or IGT to diabetes in a high-risk screening programme. The ADDITION study, DK  
S.S. Rasmussen, T. Lauritzen, A. Sandbaek, K. Borch-Johnsen, Denmark

832 Body mass index, physical inactivity and type 2 diabetes - are these associations explained by genetic selection? Results from the Swedish twin register  
S. Carlsson, T. Andersson, P. Lichtenstein, A. Ahlbom, Sweden
PS 073 Diabetes in childhood

Chair: R. Lorini, Italy

878 Postprandial glucagon levels associates with glycaemic control in Danish children and adolescents with new onset type 1 diabetes

879 Diabetic ketoacidosis at diagnosis in Austrian children - a population based analysis 1989-2008
E. Schober, T. Waldhoer, B. Rami, Austrian Diabetes Incidence Study Group, Austria

880 Ketoacidosis at diabetes onset is still frequent in children and adolescents: a multicentre analysis of 14,664 patients from 106 institutions
S.E. Hofer, A. Neu, B. Karges, R. Oeverink, J. Rosenbauer, R.W. Holl, the DPV Science Initiative and the German BMBF Competency network for Diabetes Mellitus, Austria, Germany

881 YKL-40 is elevated in type 1 diabetic children which show components of metabolic syndrome compared to those without, as well as to healthy control subjects
T. Hoertenhuber, F. Hoellerl, C. Hoebaus, A. Steffan, M. Grujicic, B. Rami, E. Schober, G. Schernthaner, R. Koppensteiner, G.H. Schernthaner, Austria

882 Predictors of recurrent diabetic ketoacidosis in children and adolescents with type 1 diabetes. Experience from a large multicenter data base
M.J. Fritsch, J. Rosenbauer, E. Schober, A. Neu, K. Placzek, R. Holl, German competence network diabetes mellitus and the DPV initiative, Austria, Germany

883 Rapid GlucoseSpray: an innovative tool to control hypoglycaemia and improve HbA1c in children with type 1 diabetes
E. Pronina, C. Guglielmi, H. Petraikina, M. Antsiferov, O. Duchareva, P. Pozzilli, Russian Federation, Italy

884 Phenotypes of prediabetes and non alcoholic fatty liver disease in obese children and adolescents
M. Manco, A. Gastaldelli, G. Bedogni, C. Tiribelli, F. Agosti, G. Grugni, A. Sartorio, Italy

885 Effect of overweight/obesity on cardiometabolic risk profile in children with type 1 diabetes

886 Calcitriol administration in the youth reduces bone turnover and may prevent bone loss in type 1 diabetes
PS 079 Glucose measuring devices

Chair: T. Heise, Germany

932 Improved system for non-invasive glucose monitoring at home
S. Zilberman, A. Kononenko, A. Weinstein, E. Gabis, A. Karasik, Israel

933 Wavesense algorithms account for haematocrit variations while determining blood glucose
A. Rao, S. Iyengar, M. Wiley, E. Mallery, United States

934 New optical method for blood glucose self-monitoring
P. Herbrechtsmeier, A.J. Mueller, C. Hasslacher, G.U. Auffarth, Germany

935 A truly non-invasive SMBG device for home use
A. Gal, I. Harman-Boehm, A. Raykhman, V. Kashin, J. Zahn, V. Dobrushkin, Y. Mayzel, E. Naidis, Israel, United States

936 Laboratory investigation for the assessment of haematocrit interference on handheld blood glucose meters for patients' self blood glucose testing
T. Forst, P.B. Musholt, M. Schneider, M. Dannappel, A. Pfützner, Germany

937 Waste of test strips compared among four blood glucose monitoring systems
R. Ng, S. Schwartz, E. Taylor, United States

938 A review of adverse events associated with false glucose readings measured by glucose dehydrogenase pyrroloquinolinequinone (GDH-PQQ)-based glucose monitoring systems in the presence of interfering sugars
J. Frias, C. Lim, J. Ellison, C. Montandon, United States

939 System accuracy evaluation of 27 blood glucose monitoring systems according to DIN EN ISO 15197
A. Baumstark, N. Jendrike, E. Zschornack, C. Haug, G. Freckmann, Germany
PS 085 Insulin therapy - type 1 diabetes

Chair: M. Lechleitner, Austria

981 Effectiveness of a day without carbohydrates
S. Murillo, Spain

982 Comparative efficacy and safety of Technosphere insulin and a rapid-acting analogue both given with glargine in subjects with type 1 diabetes mellitus in a 52-week study
P. Kapsner, R. Bergenstal, M. Rendell, C. Howard, A. Boss, P.-C. Chang, P. Richardson, United States

983 Reduced incidence and frequency of hypoglycaemia in an integrated analysis of pooled data from clinical trials of subjects with type 1 diabetes using prandial inhaled Technosphere insulin
C. Howard, H. Ren, A. Rossiter, A. Boss, United States

984 Better metabolic control, less hypoglycaemia and less weight gain with insulin detemir versus NPH insulin in intensive insulin therapy for patients with type 1 diabetes. A meta-analysis
A. Szypowska, D. Golicki, L. Groele, E. Pańkowska, Poland

985 Comparison of insulin detemir and NPH insulin in children and adolescents with type 1 diabetes mellitus aged 2-16 years: a 52-week randomised clinical trial
N. Thalange, A. Bereket, J. Larsen, L. Conradsen Hiort, V. Peterkova, United Kingdom, Turkey, Denmark, Russian Federation

986 A comparison of efficacy and safety of insulin aspart and human insulin in treatment of type 1 diabetes mellitus. The results of a systematic review
I. Skrzekowska-Baran, O. Pankiewicz, P. Rys, M.T. Malecki, Poland

987 Comparison between human insulin and insulin analogues treatment with regard to hypoglycaemia (HYPO score) and metabolic lability (Lability Index) in type 1 diabetes mellitus
J. Caballero-Corchuelo, A. Boltaña, R. Insa, J. Soler, E. Montanya, M. Perez-Maraver, Spain
PS 091 Healthcare delivery

Chair: J. Wens, Belgium

1028 Diabetes care protocol: effects on patient-important outcomes. A cluster randomised non-inferiority trial in primary care

1029 Impaired fasting glucose and impaired glucose tolerance: follow up rates in the community
A.J. Dawson, J.M. Ng, A.C. Teng, J.E. Patmore, E.S. Kilpatrick, United Kingdom

1030 Clinical decision support delivered through EMRs improved glucose and blood pressure control in adults with diabetes

1031 Management of diabetes in migrants - does ethnical background matter?
K. Schindler, H. Brath, M. Carballo, G. Vlaijc, B. Ludvik, Austria, Switzerland

1032 Insulin dose titration system in diabetic patients using a short messaging service automatically produced by a knowledge matrix
C. Kim, J. Kang, S. Lee, E. Hong, S. Ihm, D. Kim, J. Yu, M. Choi, H. Yoo, K. Huh, Republic of Korea

1033 A nationwide diabetes campaign: Portuguese pharmacies identify uncontrolled diabetic patients
M.R. Horta, S. Costa, Z. Mendes, Portugal

1034 Organizational characteristics influence quality of diabetes care. The QUASAR (quality assessment score and cardiovascular outcomes in Italian diabetes patients) study
M.C. Rossi, M. Comaschi, C. Coscelli, D. Cucinotta, P. Di Blasi, D. Merante, F. Pellegrini, U. Valentini, G. Vespasiani, A. Nicolucci, Italy

1035 Screening for deprivation using EPICES score: a tool to detect patients at high risk of diabetic complications
M. Ramentol, C. Auclair, L. Gerbaud, E. Robu, F. Desbiez, P. Thieblot, I. Tauveron, France

1036 Better %HbA1c control among type 2 diabetes patients is associated with higher patient-reported satisfaction with treatment: a meta-analysis of trial results
M.J. Atkinson, Q. Zhang, D.D. Smith, J.M. Boltri, W.D. Smith, United States
**PS 097 Nephropathy - clinical 2**

Chair: P.-H. Groop, Finland

1082 Fibrinocoagulopathy in chronic kidney disease in patients with elderly type 2 diabetes
M. Kameyama, Y. Tamura, Y. Ando, Y. Tojo, Japan

1083 Change in body composition but not glomerular filtration is related to altered insulin sensitivity in type 1 diabetes patients with or without diabetic nephropathy
M.K. Svensson, J.W. Eriksson, Sweden

1084 Acute hyperglycaemia decreases serum angiotensin converting enzyme 2 (ACE2) activity
S.-P. Aino, D. Gordin, C. Forsblom, M. Rosegard-Barlund, M. Thomas, P.-H. Groop, Finland, Australia

1085 Increased urinary excretion of fibrogenic growth factors is associated with initial structural changes in the kidneys in type 1 diabetic patients
V.V. Klimontov, I.A. Bondar, A.P. Nadeev, Russian Federation

1086 Evaluation of prognostic factors affecting urinary albumin and urinary type IV collagen in early-onset type 1 diabetes mellitus
M. Morita, Y. Uchigata, K. Hanai, Y. Ogawa, Y. Iwamoto, Japan

1087 Normalizing albuminuria using urinary-creatinine rather than measuring albuminuria alone leads to more accurate and less false positive or false negative results when screening patients with diabetes mellitus for nephropathy
C.S. Kloos, U.A. Müller, N. Müller, G. Wolf, Germany

1088 Plasma proteome analysis of patients with type 1 diabetes with diabetic nephropathy

1089 Vascular diseases and mortality of patients on haemodialysis with type 2 or type 3 diabetes
G. Bodlaj, O. Janko, B. Schmekal, G. Biesenbach, Austria

1090 Prorenin receptor expression in human kidneys with diabetic nephropathy

1091 Diabetic nephropathy is associated more strongly with toe-brachial index than ankle-brachial index in type 2 diabetic patients

1092 Renal interstitial fibrosis factors in type 2 diabetics with renal artery stenosis
PS 103 Autonomic neuropathy

Chair: D. Ziegler, Germany

1131 Plasma asymmetric dimethylarginine (ADMA) is associated with autonomic neuropathy in long standing type 1 diabetes
D. Galicka-Latala, A. Surdacki, D. Fedak, M. Kuzniewski, E. Konduracka, Poland

1132 Corneal confocal microscopy: a novel surrogate marker for diabetic autonomic neuropathy
M. Tavakoli, P. Begum, J. McLaughlin, R.A. Malik, United Kingdom

1133 Effects of aldose reductase inhibitor on peripheral muscle sympathetic nerve activity in streptozotocin-induced diabetic rats
M. Kusunoki, G. Shinzawa, T. Nakamura, Japan

1134 Blunted postprandial parasympathetic drive and its relation to blood pressure control in patients with diabetes mellitus
A. Pop, A. Stirban, S. Nandrean, D. Tschöpe, Germany

1135 Increased left ventricular torsion rate in subjects with type 1 diabetes correlates with cardiac autonomic neuropathy: a pilot study

1136 The presence of sympathovagal abnormalities in patients with subclinical diabetic autonomic neuropathy
M.A. Oleolo, J.L. Marques, R. Gandhi, D. Selvarajah, S. Tesfaye, United Kingdom

1137 Severe symptomatic diabetic gastroparesis and cardiovascular tests exhibit a close relationship
N. Ejskjaer, J. Fleischer, Denmark

1138 Endothelial impairment and bone marrow-derived CD34+/133+ cells in diabetic subjects with erectile dysfunction
PS 109 Pregnancy – complications

Chair: E.R. Mathiesen, Denmark

1188 Pregnancy and type 1 diabetes: St Vincent declaration 20 years later, an alarming observation
M. Floriot, G.-A. Séry, C. Langbour, O. Ziegler, P. Judlin, France

1189 Prognostic importance of the intensive diabetes mellitus control prior to conception and pregnancy for mother and child
J. Taton, A. Czech, I. Raźna, M. Mironiuk, M. Bernas, Poland

1190 Pregnancy-induced increase in IGF-I is associated with progression of diabetic retinopathy
L. Ringholm Nielsen, M. Vestgaard, C.S. Laugesen, A. Juul, P. Damm, E.R. Mathiesen, Denmark

1191 Prevalence and progression of diabetic retinopathy during pregnancy in women with type 2 diabetes
K.L. Rasmussen, C.S. Laugesen, L.R. Nielsen, P. Damm, E.R. Mathiesen, Denmark

1192 Preeclampsia; prevalence and risk factors in women with diabetes mellitus
A. Abd EL Rahman, A. McCarthy, R.G. Firth, S. Daly, B. Kinsley, Ireland

1193 Efficacy and safety of continuous subcutaneous insulin infusion therapy in pregnancy complicated by type 1 diabetes
K. Cyganek, A. Hebda-Szydło, B. Katra, T. Klupa, I. Kaim, J. Skupien, A. Reron, J. Sieradzki, M.T. Malecki, Poland, United States

1194 Relationship between mean blood glucose values and HbA1c in diabetic pregnant women
G. Papageorgiou, K. Makris, K. Economou, A. Athanasiadou, M. Alevizaki, E. Anastasiou, Greece

1195 A real-time continuous glucose monitoring for diabetic women during the delivery
A. Ghio, C. Lencioni, F. Romero, F. Pancani, A. Bertolotto, M. Aragona, S. Del Prato, L. Volpe, G. Di Cianni, Italy
PS 115 New therapeutic options

Chair: E. Bonora, Italy

1238 When it comes to platelet, hypoglycaemic drugs are not all the same. Antiplatelet treatment and pharmacological treatment for type 2 diabetes
E. Mannucci, M. Monami, R. Marcucci, I. Iacomelli, C. Lamanna, N. Marchionni, G. Gensini, R. Abbate, Italy

1239 Effect of perindopril therapy on expression of genes involved in pathogenesis of chronic complications in patients with type 1 diabetes mellitus
M. Flekac, A. Horinek, M. Jarolimkova, J. Skrha, Czech Republic

1240 Tetramethylpyrazine protects oxidative damage and mitochondrial dysfunction in C2C12 muscle cells
X. Gao, X.L. Zhao, China

1241 Sodium tungstate inhibits early atherothrombotic pathways in human endothelial cells
F. Hanzu, M. Palomo, P. Gomez-Abellan, M. Garaulet, M. Diaz-Ricart, M. Parrizas, R. Gomis, Spain

1242 BBR reduces hepatic fat content in the rats of NAFLD by decreasing the methylation of MTP promoter
X.X. Chang, X. Gao, M. Liu, D.R. Lu, J. Fei, China

1243 Effects of prescription omega-3-acid ethyl ester vs olive oil on macro- and microvascular function in subjects with type 2 diabetes mellitus
S. Nandrean, A. Stirban, A. Pop, C. Götting, R. Tamler, T. Gawlowski, B. Stratmann, D. Tschoepe, Germany, United States

1244 Analogue versus human insulin therapy improves postmeal glucose and cardiac function in patients with type 2 diabetes with intensive conventional insulin therapy
T. Siegmund, H. Von Bibra, M. Riemer, P.-M. Schumm-Draeger, Germany

1245 Rationale and design of the Trial Evaluating Cardiovascular Outcomes with Sitagliptin (TECOS)
M.A. Bethel, J. Green, R.M. Califf, R.R. Holman, United Kingdom, United States

1246 Anti-inflammatory effects of cilostazole on vascular smooth muscle in in vitro and in vivo
Y. Hattori, S. Hattori, K. Kasai, Japan
PS 121 Endothelial dysfunction

Chair: A. Natali, Italy

1287 The effect of hypoxia and hyperglycaemia on migration of microvascular endothelial cells
P.C. Gadad, D. Moir, R.M. Knott, United Kingdom

1288 Fenofibrate suppresses microvascular inflammation and apoptosis through AMP-activated protein kinase activation
S. Hattori, A. Tomizawa, K. Kasai, Y. Hattori, Japan

1289 Cardiac microvascular dysfunction in diabetes and insulin treatment: role of glucose-induced PKC-βII activity
H. Wang, Z. Yin, L. Wei, China

1290 Elucidation of the molecular mechanisms involved in endothelial dysfunction induced by hyperglycaemia via the activation of the hexosamine pathway
T.V. Fiorentino, A. Greco, F. Andreozzi, F. Arturi, G. Sesti, M.L. Hribal, Italy

1291 Acute administration of high polyphenol content chocolate improves endothelial function in type 2 diabetes even in the presence of hyperglycaemia
D. Mellor, L. Allegaert, A. Wakil, E. Kilpatrick, S. Atkin, United Kingdom, Belgium
PS 127 Cardiovascular disease - early detection and prevention

Chair: G.-H. Schernthaner, Austria

1340 Role of physical activity on endothelial function of healthy subjects
L. Franzini, D. Ardigò, A. Dei Cas, S. Haddoub, S. Valtueña, F. Brighenti, I. Zavaroni, Italy

1341 Effect of exercise training on cardiopulmonary functions in type 2 diabetic rats during endotoxaemia
C.-H. Hung, M.-C. Kao, Y.-W. Chen, Taiwan

1342 Circulating endothelial progenitor cells (EPC) and endothelial function in subjects with normal, impaired and diabetic glucose tolerance

1343 Leukocyte telomere length correlates with subclinical atherosclerosis and is independently correlated with endothelial progenitor cell number in young adult healthy subjects
A. Dei Cas, V. Spigoni, L. Franzini, M. Preti, D. Ardigò, E. Derlindati, L. Monti, P. Dell'Era, L. Gnudi, I. Zavaroni, Italy, United Kingdom

1344 Polymorphism for gene of connexin 37 is associated with subclinical atherosclerosis in obese women from general population and in women with diabetes type 1
J. Pitha, P. Pithova, J.A. Hubacek, Czech Republic

1345 Early atherosclerosis and dehydroepiandrosterone sulphate in patients with type 2 diabetes mellitus
M. Vasiliadis, M. Papaioakim, I. Heliopoulos, M. Toromanidou, M. Nikelli, T. Gioka, A. Tsigiris, A. Tavridou, E. Pagkalos, Greece

1346 Acute restoration of euglycaemia improves endothelial reactivity in type 2 diabetes but alters relative contribution of nitric oxide to vasodilatation
A. Basu, D. Nandy, S. Lakshmi, T. Curry, R. Basu, R.A. Rizza, M.J. Joyner, United States

1347 High plasma fetuin-A is associated with increased carotid intima-media thickness in a middle-aged population
N. Stefan, C. Thamer, K. Rittig, A. Haupt, J. Machann, A. Peter, B. Balletshofer, A. Fritsche, H.-U. Haring, Germany

1348 Impaired diffusing capacity for carbon monoxide in children and adolescents with type 1 diabetes: is this the first sign of long-term
complications?

M. Morelli, A. Scaramuzza, M. Rizzi, S. Borgonovo, C. Mameli, L. Santoro, G. Zuccotti, Italy
13:45 – 14:45, Poster Event B

**PS 002 Prediction and prevention of type 1 diabetes**

Chair: O. Simell, Finland

262 Prognostic relevance of autoantibodies against IA-2beta in IA-2A-positive school children from the general population
J. Heide, S. Krause, U. Walschus, A.-M. Hoss, R. Wassmuth, P. Achenbach, M. Schlosser, Germany

263 Decrease in GAD-65, IA-2 and insulin autoantibodies during non-diabetic pregnancy
S.R. Lindehammer, I. Hansson, B. Midberg, S.A. Ivarsson, K. Lynch, J. Dillner, Å. Lernmark, Sweden

264 Insulin antibodies and selected markers of insulin resistance during the initial 2 years of type 1 diabetes in children

265 Autoantibodies to REG family proteins in Japanese diabetes patients

266 Composite multi-antigen probes enhance detection of type 1 diabetes autoantibodies
J.M. Wenzlau, T.J. Gardner, L. Yu, G.S. Eisenbarth, H.W. Davidson, J.C. Hutton, United States

267 Involvement of the Ig heavy chain locus in autoantibody reactivity in Portuguese type 1 diabetes patients

268 Phenotype versus immunotype and endogenous insulin production in diabetes in adults - does the clinical assessment still have a meaning in classifying patients?
S.M. Zawada-Targoni, J. Taton, A. Czech, Poland

269 Analysis of CD25+ and CD45RA+ regulatory subsets of CD4+ T lymphocytes: comparison between nondiabetic first degree relatives and recent onset type 1 diabetes

270 High risk vs low risk nondiabetic first degree relatives of type 1 diabetics: differences in CD4+CD25+ and CD4+CD161+ T regulatory subsets but not in insulin sensitivity levels
A. Jotic, N.M. Lalic, T. Milicic, I. Markovic, M. Zamaklar, K. Lalic, L. Lukic, N. Rajkovic, M. Macesic, J. Seferovic, Serbia
271 Vitamin D supplementation increases the frequency of regulatory T cells in apparently healthy humans
B. Prietl, S. Pilz, A. Tomaschitz, B.M. Obermayer-Pietsch, W.B. Graninger, T.R. Pieber, Austria

272 Smoking predicts short partial remission of type 1 diabetes
S. Pilacinski, D. Zozulinska-Ziolkiewicz, A. Gawrecki, B. Wierusz-Wysocka, Poland
PS 008 Replicated genes for diabetes and obesity

Chair: V. Grill, Norway

317 A low "genetic load" of risk variants for type 2 diabetes is associated to better beta cell function in patients with newly diagnosed type 2 diabetes

318 Study of the relationship between the accumulation of genes responsible for type 2 diabetes mellitus and clinical presentation

319 Can knowledge about the multiple common type 2 diabetes susceptibility gene variants be applied to discriminate between glucose tolerance and diabetes?
T. Sparsø, N. Grarup, C. Andreasen, A. Albrechtsen, J. Holmkvist, G. Andersen, T. Jørgensen, K. Borch-Johnsen, A. Sandbæk, T. Lauritzen, S. Madsbad, T. Hansen, O. Pedersen, Denmark

320 The titre of antiGAD influences diabetes-associated genes in LADA patients: results from the HUNT study
E. Pettersen, F. Skorpen, K. Kvaløy, K. Midthjell, V. Grill, Norway

321 Explorative analyses of the population impact of type 2 diabetes associated SNPs on diabetes related traits - the HUNT study
C.G. Platou, K. Midthjell, K. Hveem, Norway

322 Analyses of the combined discriminative value of 20 validated obesity susceptibility variants, separately and in combination with environmental factors

323 Variants in RAPGEF1, ENPP1, TP53, NRF1, SLC2A2, SLC2A4 and FOXC2 do not associate with type 2 diabetes or related phenotypes in studies of 9,750 Danes
N. Grarup, K. Burgdorf, A. Sandbæk, T. Lauritzen, T. Jørgensen, T. Hansen, O. Pedersen, Denmark

324 A variant in the KCNQ1 gene predicts future type 2 diabetes and mediates impaired insulin secretion

325 Genetic variation in KCNQ1 associates with beta cell function and fasting glucose levels: a study of 3734 subjects comprising three Asian ethnicities
D.P. Ng, J. Tan, S. Nurbaya, D. Gardner, S. Ye, E.S. Tai, Singapore
326 The type 2 diabetes-associated C-allele of rs2237895 KCNQ1 associates with reduced insulin release following an oral glucose load

327 IRS-1 G972R and type 2 diabetes: a paradigm for the difficult ascertainment of the contribution to disease susceptibility of "low frequency-low risk" variants
E. Morini, S. Prudente, E. Succurro, M. Chandalia, Y.-Y. Zhang, S. Mammarella, F. Pellegrini, C. Powers, V. Proto, B. Dallapiccola, A. Cama, G. Sesti, N. Abate, A. Doria, V. Trischitta, Italy, United States
PS 014 Oxidative stress and ROS in beta cells

Chair: T. Köck, Sweden

371 The role of mimintin in insulin-producing cells
K. Hanzelka, E. Gurgul-Convey, J. Jura, S. Lenzen, Germany, Poland

372 Modulation of $K_{\text{ATP}}$ channels increases the activity of antioxidant enzyme systems and protects beta cells against ROS-induced cell damage
M. Düfer, B. Gier, P. Krippeit-Drews, L. Aguilar-Bryan, J. Bryan, G. Drews, Germany, United States

373 Endogenous production of hydrogen sulfide by beta cells protects against oxidative stress-mediated cell death
J.G. Mabley, W.-W. Li, P.K. Chatterjee, United Kingdom

374 Protective effect of glucokinase activation against hydrogen peroxide-induced cell death in a model of pancreatic beta cells

375 Role of oxidative stress in the alterations of pancreatic beta cell survival and function induced by prolonged culture in low glucose
S.M. Pascal, J.-C. Jonas, Belgium

376 Generation of oxidative stress is responsible for the sustained activation of the transcriptional repressor ICER in beta cells
D. Favre, F. Allagnat, G. Niederhäuser, V. Plaisance, J.-A. Haefliger, R. Regazzi, G. Waeber, A. Abderrahmani, Switzerland

377 Cytoprotective effect of prostacyclin synthase overexpression in insulin-producing cells
E. Gurgul-Convey, S. Lenzen, Germany

378 Intermittent hypoxia-specific expression of CCL2, CXCL9, and CXCL10 genes via NFkappaB activation in pancreatic beta cells

379 Is autophagy the mechanism of dioxin-induced cell death of the beta cell line INS-1E?
V. De Tata, M. Masini, L. Martino, M. Novelli, P. Masiello, Italy

380 Restoration of glucose stimulated insulin secretion by copper addition - a possible role of interleukin-1β and oxidative stress
G. Aharon-Hananel, S. Lenzen, A. Jorns, I. Raz, S. Weksler-Zangen, Israel, Germany
PS 020 Ion channels in beta cells

Chair: S. Barg, Sweden

431 Gliquidone features different from glibenclamide in the insulin secretion pattern and closing the K$_{ATP}$ channels profiles in HIT-T15 cells

432 Excessive expression and activity of Kv2.1 channels in islet beta cells of type 2 diabetic GK rats
K. Dezaki, B. Damdindorj, A. Ando, M. Yoshida, M. Kakei, T. Yada, Japan

433 Essential role of NAADP-evoked calcium release in glucose-mediated depolarization, [Ca2+]i spiking and insulin secretion in mouse pancreatic beta cell
A. Arredouani, R. Parkesh, T. Pillinger, G. Coltart, F. Clough, K. Shimomura, F. Aschcroft, G. Churchill, A. Galione, United Kingdom

434 Analysis of membrane potential oscillation mechanism in the novel pancreatic beta cell simulation model
Y. Nakamura, S. Fujimoto, J.-W. Wang, Y. Himeno, C. Cha, T. Shimayoshi, A. Noma, N. Inagaki, Japan

435 Oscillations of Zn$^{2+}$ beneath the plasma membrane in glucose-stimulated beta cells
O. Dyachok, O. Idevall, A. Tengholm, E. Gylfe, Sweden

436 Rapid changes in surface expression of L-type Cav1.2 channels in stimulated INS-1 cells
E. Zhang, T. Reinbothe, S. Andersson, L. Eliasson, M. Brauns, J. Striessnig, E. Renström, Sweden, Austria

437 Ca$^{2+}$/Calcineurin/NFAT signalling pathway regulates glucose-induced IRS-2 expression in rat pancreatic beta cells
D. Demozay, S. Tsunekawa, J.F. McCuaig, C.J. Rhodes, United States

438 BLX-1002, a novel thiazolidinedione with no PPAR affinity, selectively enhances insulin secretion in diabetic animal islets stimulated with high glucose, GLP-1 or tolbutamide
F. Zhang, D. Dey, R. Bränström, L. Forsberg, M. Lu, Q. Zhang, Á. Sjöholm, Sweden, United States
PS 026 Markers of autoimmunity in type 1 diabetes

Chair: N.C. Schloot, Germany

483 Distinct phenotype and function of natural killer cells in the pancreas of non obese diabetic mice

484 Expressions of phagocyte surface receptors for apoptotic cells in the bone marrow-derived dendritic cells from non-obese diabetic mice
K. Takahashi, J. Satoh, Japan

485 The monocytes of type 1 diabetic patients (newly-diagnosed and long-standing) express significantly lower intensity of cell membrane HLA-DQ molecules compared to controls, while in long-standing patients very few monocytes express the surface markers CD122 (IL-2Rβ) and CD152 (CTLA-4)
S.A. Paschou, A. Petsiou, K. Hatzigianni, E. Giotaki, N. Kolaitis, G. Vartholomatos, A. Tsatsoulis, G.K. Papadopoulos, Greece

486 Association of adiponectin, IL-1ra, IP10 and number of islet autoantibodies with progression patterns of type 1 diabetes the first year after diagnosis
A. Kaas, C. Pfleger, P. Hougaard, L. Hansen, N.C. Schloot, B.O. Roep, H.B. Mortensen, Hvidore Study Group on Childhood Diabetes, Denmark, Germany, Netherlands

487 Latent autoimmune diabetes in adults vs recent-onset type 1 diabetes: differences in autoantibody levels, clinical and metabolic parameters were independent of the age of type 1 diabetes onset

488 Association of immune reactivity with metabolic control in new-onset type 1 diabetes patients
C. Pfleger, G. Meierhoff, N.C. Schloot, Germany

489 Positive correlation between the serum DPP-4 enzymatic activity and the CD3+ lymphocyte membrane bound CD26 expression in patients with type 1 diabetes mellitus
V. Timea, A. Somogyi, G. Nagy, Z. Tulassay, G. Firneisz, Hungary

490 Zinc transporter 8 autoantibody in Chinese type 1 diabetes
L. Yang, S. Luo, G. Huang, J. Peng, X. Li, J. Lin, X. Yan, H.W. Davidson, J.C. Hutton, Z. Zhou, China, United States
PS 032 Insulin sensitivity and lipids

Chair: T. Pelikánová, Czech Republic

532 The relationship of liver fat content, glucose fluctuation and components of metabolic syndrome
M. Liu, R. You, S.X. Rao, X.Z. Yao, M.S. Zeng, X. Gao, China

533 Lipid accumulation product is strongly associated with surrogates of insulin resistance, metabolic syndrome and cardiovascular disease risk in healthy men
M.J. Taverna, F. Aranguren, G.D. Frechtel, Argentina

534 Effects of fish oil on metabolic alterations induced by carbohydrate overfeeding in healthy volunteers
G. Allain, V. Le Guen, S. Lesven, J. Mansourati, F. Guerrero, H. Kerspern, J. Delarue, France

535 Paradoxal effect of chronic treatment with extended-release nicotinic acid on insulin sensitivity in patients with abdominal obesity and mixed dyslipidaemia
E. Blond, S. Lambert-Porcheron, A.-C. De Gouville, H. Vidal, M. Laville, France

536 The role of lipid subfractionation in predicting insulin sensitivity in normal glucose tolerant subjects
B. Buday, E. Kulcsár, É. Péterfai, M. Vitai, B. Literati-Nagy, P. Hamar, L. Koltay, L. Korányi, Hungary

537 The antioxidant N-Acetyl-L-cysteine does not reverse hepatic insulin resistance induced by prolonged (48h) lipid infusion
S. Pereira, C. Lee, L. Lam, A. Giacca, Canada

538 The lipid peroxidation product 4-hydroxynonenal uncouples insulin-stimulated Akt phosphorylation from its activation, resulting in adipocyte insulin resistance
A. Osnis, N. Bashan, A. Rudich, Israel

539 N-acetylcysteine reduces gluconeogenesis without altering hepatic lipid accumulation or mitochondrial superoxide production in an in vitro model of NAFLD

540 Dysregulation of intracellular triacylglycerol breakdown in fatty liver contributes to the development of hepatic insulin resistance
M. Cahova, J. Ždychova, H. Dankova, L. Kazdova, Czech Republic

541 Relationships of TNF-alpha system with glucose and lipid oxidation in lean and obese subjects
A. Adamska, M. Karczewska-Kupczewska, I. Kowalska, A. Nikolajuk, M. Gorska, M. Straczkowski, Poland
PS 038 Incretin secretion - studies in animals

Chair: Å. Sjöholm, Sweden

581 Different insulinotropic effects of GLP-1 and GIP before and during IVGTT with and without systemic DPP4 inhibition in Wistar rats
S. Berg, P. Heinke, E. Salzsieder, K. Kohnert, E. Freyse, Germany

582 Chronic treatment with a glucagon receptor antagonist reduces blood glucose and elevates circulating GLP-1 in diet-induced obese mice

583 Regulation of proliferation and hormone production of GLP-1 and glucagon-secreting cells
C. Kappe, J.J. Holst, Q. Zhang, Å. Sjöholm, Sweden, Denmark

584 GPR119 activation regulates glucose homeostasis through mechanisms requiring incretin receptor activation
G.B. Flock, D. Holland, D.J. Drucker, Canada

585 Ileal interposition surgery increases circulating GLP-1 and PYY responses and delays diabetes onset in a novel rat model of type 2 diabetes mellitus, the UCD-T2DM rat
B. Cummings, A.D. Strader, J.L. Graham, K.L. Stanhope, P.J. Havel, United States
PS 044 Systemic inflammation in obesity and diabetes

Chair: T.M. Stulnig, Austria

617 PKCδ augments IL-6 signalling and proinflammatory response
E. Wallerstedt, Sweden

618 The role of macrophage migration inhibitory factor in obesity-associated type 2 diabetes
T. Cvjeticanin, S. Stosic-Grujicic, S. Sandler, I. Stojanovic, Serbia, Sweden

619 Transgenic mice overexpressing C reactive protein show reduced insulin secretion and impaired glucose homeostasis
M.L. Hribal, M.F. Ruffo, A. Greco, T.V. Fiorentino, D. Samols, G. Sesti, Italy, United States

620 C-reactive protein mediates the association of liver fat and carotid intima media thickness in men with the metabolic syndrome and/or type 2 diabetes
N.J. Van Der Zijl, M.H. Muskiet, M.E. Tushuizen, L.J. Rijzewijk, P.J. Pouwels, M. Diamant, Netherlands

621 Plasma C-reactive protein, apolipoprotein B and triglycerides/HDL-cholesterol ratio as cardiometabolic risk factors in adolescents with and without metabolic syndrome

622 Metabolic endotoxaemia and saturated fat contributes to circulating NGAL concentrations in subjects with insulin resistance

623 Inflammation markers and metabolic characteristics of subjects with 1-hour hyperglycaemia
G. Bardini, I. Dicembrini, C.M. Rotella, Italy

624 Increased levels of proinflammatory cytokines are associated with impaired immune activity of natural killer (NK) cells of prediabetic subjects (PS)
A. Czech, P. Piatkiewicz, M. Nowaczyk, J. Marek, Poland

625 Matrix metalloproteinases in type 2 diabetes and in non-diabetic controls: effects of short-term and chronic hyperglycaemia
K.C. Lewandowski, E. Banach, A. Lewinski, Poland

626 Serum IL-18 concentration is increased in obese subjects with impaired glucose tolerance and related to the markers of atherogenesis
I. Kowalska, M. Straczkowski, A. Nikolajuk, A. Adamska, M. Karczewska-Kupczewska, A. Lebkowska, M. Gorska, Poland
PS 050 Brain / CNS and metabolism

Chair: G.-J. Biessels, Netherlands

674 Insulin promotes fatty acid storage in white adipose tissue by a CNS-mediated and CD36-dependent mechanism

675 Insulin in the brain promotes locomotor activity in lean
A.M. Hennige, T. Sartorius, O. Tschritter, A. Fritsche, H. Preissl, P. Ruth, H.-U. Häring, Germany

676 IL-6 links exercise to hypothalamic insulin and leptin sensitivity through IKKβ and ER stress in DIO rats

677 Changes in cerebrospinal fluid insulin during non-neurological surgery

678 Human primary astrocytes represent a novel insulin-responsive cell type
M. Heni, H. Staiger, M. Guthoff, A.M. Hennige, H.-U. Häring, Germany

679 Feeding modulates human brain responses to food cues
Y. Nathan, S. Lee, S. Brookes, P. Choudhary, M. Brammer, L. Reed, S.A. Amiel, F. Zelaya, United Kingdom

680 Evidence of a regulation in peripheral glucose metabolism by central nervous system in humans: from Parkinson to diabetes
M. Batisse, C. Guillet, I. Rieu, F. Durif, Y. Boirie, France

681 Alfa linolenic (w-3) and oleic (w-9) fatty acids revert inflammation and apoptosis in the hypothalamus of diet-induced obese rats

682 Combination of mitochondrial targeting nutrients for the management of brain failures associated with type 1 diabetes
T. Kuchmerovska, I. Shymanskyy, G. Donchenko, A. Klimenko, Ukraine

683 Alterations of PED/PEA-15 gene at the interface of diabetes and Parkinson disease
G. Perruolo, F. Fiory, D. Viggiano, A. Cassese, A. Scorziello, A.P. Barbagallo, A. Sadile, L. Annunziato, F. Beguinot, P. Formisano, Italy
PS 056 GLP-1 agonists - clinical 1

Chair: B. Gallwitz, Germany

729 Effects of exenatide plus rosiglitazone on measures of beta cell function and insulin sensitivity in subjects with type 2 diabetes previously treated with metformin
L.C. Glass, C. Triplitt, M.S. Lewis, Y. Qu, Y. Guo, D. Maggs, R.A. DeFronzo, United States

730 Exenatide once-weekly treatment elicits sustained glycaemic control and weight loss over 2 years
M. Trautmann, K. Wilhelm, K. Taylor, T. Kim, D. Zhuang, L. Porter, United States

731 Reductions in glycaemia and weight with once-weekly dosing of LY2189265, a long-acting glucagon-like peptide 1 (GLP-1) analogue in patients with type 2 diabetes mellitus
T.A. Hardy, P. Barrington, J. Chien, H. Showalter, K. Schneck, S. Cui, F. Tibaldi, B. Ellis, United States, United Kingdom, Belgium

732 Differences in baseline characteristics between patients prescribed sitagliptin versus exenatide based on a US electronic medical record database
L. Radican, S. Rajagopalan, P. Mavros, S. Engel, D. Yin, Q. Zhang, United States

733 Investigation of features of type 2 diabetic patients with secondary failure to oral hypoglycaemic agents associated with blood glucose response to exenatide
M. Sardinoux, G. Baptista, A. Wojtusciszyn, J. Bringer, E. Renard, France

734 Liraglutide, a human GLP-1 analogue, maintains greater reductions in Hba1c, FPG and weight than glimepiride over 2 years in patients with type 2 diabetes: LEAD-3 extension study
A.J. Garber, R. Henry, R. Ratner, P. Hale, C.T. Chang, B. Bode, United States

735 Weekly, biweekly and monthly efficacy of albiglutide, a long-acting GLP-1-receptor agonist, in patients with type 2 diabetes receiving concomitant background metformin
J. Rosenstock, J.E. Reusch, M.A. Bush, F. Yang, M.W. Stewart, United States

736 Improvement in glycaemic control when adding liraglutide to existing therapy: results from a meta-analysis of six large randomised clinical trials
J.J. Holst, M. Nauck, J. Brett, A. Falahati, R. Pratley, Denmark, Germany, United States
PS 062 Incretins – experimental

Chair: A. Vaag, Denmark

783 Postprandial glucose levels and long-term glucose control are improved with taspoglutide, a human once-weekly GLP-1 analogue, in an animal model of type 2 diabetes
E. Sebokova, S. Sewing, U. Sprecher, L. Tobalina, A. Benardeau, C. Migliorini, Switzerland, France

784 Chronic administration of the glucagon-like peptide-1 analogue, liraglutide, delays diabetes onset and improves lipids in a novel model of type 2 diabetes, the UCD-T2DM rat

785 Effects of long-term dipeptidyl peptidase-IV inhibiton on body composition and glucose tolerance under high-fat diet in mice
X. Liu, N. Harada, S. Yamane, A. Hamasaki, E. Mukai, K. Toyoda, C. Yamada, Y. Yamada, Y. Seino, N. Inagaki, Japan

786 Novel fatty acid derivatised forms of glucose-dependent insulinotropic polypeptide with improved glucose-lowering and insulin-releasing properties
V.A. Gault, B.D. Kerr, N. Irwin, F.P. O'Harte, P.R. Flatt, United Kingdom

787 Insulinotropic and glucose lowering effects of small molecule GLP-1-receptor agonist 6,7-dichloro-2-methylsulfonyl-3-N-tert-butylaminoquinoxaline
S. Patterson, N. Irwin, B.D. Green, P.R. Flatt, United Kingdom

788 Presence and characteristics of GLP-1 receptors in osteoblastic cells
B. Nuche-Berenguer, P. Moreno, N. González, A. Acitores, S. Portal, P. Esbrit, I. Valverde, M.L. Villanueva-Peñacarrillo, Spain

789 Different modulation of dipeptidyl-peptidase IV activity between microvascular and macrovascular human endothelial cells
I. Dicembrini, L. Pala, A. Pezzatini, S. Ciani, S. Gelmini, B.G. Vannelli, B. Cresci, E. Mannucci, C.M. Rotella, Italy

790 Novel GLP-1 analogues cross the blood brain barrier and enhance synaptic plasticity in the brain: a link between diabetes and Alzheimer's disease
C. Hölscher, K. Fung, R. McCurtin, V.A. Gault, P.L. McClean, United Kingdom
PS 068 Prediction and prevention of type 2 diabetes mellitus – 2

Chair: B. Ludvik, Austria

833 Predicting the effects of lifestyle or pharmacological intervention on progression of type 2 diabetes: evaluation of a novel mathematical model against results of the DPP
A. De Gaetano, T. Hardy, E. Abu-Raddad, P. Palumbo, J. Bue-Valleskey, N. Porksen, Italy, Belgium, United States

834 Early identification of type 2 diabetes in primary care medical offices in Austria. A multicentre randomized study
F.C. Prischl, E. Rebhandl, S. Zehetmayer, Austria

835 Predictors of cardiometabolic control in intensified, multi-factorial treated, screen detected type 2 diabetics; results of ADDITION the Netherlands study
R. Van der Lugt, M. Van den Donk, K.J. Gorter, B. Sparen, G.E. Rutten, Netherlands

836 FINDRISC (Finnish Diabetes Risk Score): a useful tool as a predictor of both diabetes risk and cardiovascular risk in an Italian population
C. Bianchi, L. Pucci, A. Agostini, D. Lucchesi, E. Storti, E. Russo, A.G. Daniele, G. Penno, S. Del Prato, R. Miccoli, Italy

837 Elevated serum levels of transforming growth factor-beta1 (TGFbeta1) precede the development of type 2 diabetes: MONICA/KORA Augsburg case-cohort study, 1984-2002
C. Herder, A. Zierer, W. Koenig, M. Roden, C. Meisinger, B. Thorand, Germany

838 Diabetes, pre-diabetes and associated risks on Minnesota code-indicated major ECG abnormality among Chinese: a cross-sectional diabetic study in Fujian province, southeast China
G. Chen, L. Lin, China

839 Trajectories of HbA1c prior to the diagnosis of diabetes. The Inter99 study
S. Engberg, A.C. Jensen, B. Carstensen, A.G. Tabák, C. Glümer, T. Jørgensen, K. Borch-Johnsen, D.R. Witte, Denmark, United Kingdom

840 Population-based screening for type 2 diabetes in Denmark, the Netherlands and the United Kingdom: uptake and prevalence in the ADDITION study
M. Van den Donk, A. Sandbaek, K. Borch-Johnsen, T. Lauritzen, R.K. Simmons, N.J. Wareham, S.J. Griffin, M.J. Davies, K. Khunti, G.E. Rutten, Netherlands, Denmark, United Kingdom

841 A school-based physical activity program increases fitness and decreases adiposity and cardiovascular risk factors in primary school children: a cluster-randomized trial
PS 074 Insulin analogues

Chair: T.R. Pieber, Austria

887 Changes of glycaemic control, anthropometric parameters and fasting lipid profiles in patients with type 2 diabetes mellitus starting insulin therapy with premixed insulin analogues BID
V. Pīrāgs, M. Dąbrowski, M. Sait Gonen, A. Ertekin, S.P. Cleall, B. Mozejko-Pastewka, J. Kiljanski, Latvia, Poland, Turkey, United Kingdom, Austria

888 Improved glycaemic control in over 11,000 elderly patients from the IMPROVE™ Study of biphasic insulin aspart 30/70 (BIAsp 30) in eight countries
V. Borzi, S. Shah, V.K. Knudsen, Italy, India, Denmark

889 Lower treatment costs with insulin glargine compared to insulin detemir as part of a basal-bolus regime in type 2 diabetes: results from the LIVE-COM study in Germany
R.A. Bierwirth, Germany

890 Insulin glulisine has a faster onset of action than insulin aspart
U. Hövelmann, S. Arnolds, K. Rave, A. Fischer, C. Sert-Langeron, T. Heise, Germany, France

891 Use of rapid-acting insulin aspart reduces costs and cardiovascular complications in type 2 diabetes when compared with human insulin
R.F. Pollock, W.J. Valentine, T.L. Thomsen, H. Nishimura, Switzerland, Denmark, Japan

892 Insulin detemir and insulin glargine have similar effects on hepatic glucose metabolism
M.C. Moore, M.S. Smith, M. Turney, T.D. Farmer, P. Williams, United States

893 Baseline HbA1c predicts the likelihood of reaching the 7.0% HbA1c target with structured titration of add-on insulin glargine: patient-level analysis of 12 studies in type 2 diabetes mellitus
R. Zhou, A.A. Vlajnic, D. Orloff, J. Rosenstock, M. Riddle, United States

894 Glycaemic outcomes 1 year after initiation of insulin glargine or detemir in type 2 diabetes in the US
L. Blonde, L. Vaur, P. Levin, D.M. Kendall, United States, France

895 Effects of insulin glargine vs thiazolidinediones on glycaemic and lipid variables in type 2 diabetes mellitus: the impact of obesity
P. Dandona, N. Rosenberg, P. Hollander, J. Rosenstock, L. Meneghini, United States
PS 080 Pump treatment

Chair: J.C. Pickup, United Kingdom

940 Evaluating the feature of glycaemia excursion detected by continuous glucose monitoring system during temporary continuous subcutaneous insulin infusion
M. Li, China

941 Continuous subcutaneous insulin infusion improved glycaemic control and health-related quality of life (HRQoL) in type 2 diabetes mellitus
X. Chen, J.P. Frías, S.V. Edelman, M.F. Peyrot, R.R. Rubin, United States

942 Fasting plasma glucose rather than HbA1c more linked to lipid profiles and IL-10 in subjects with type 2 diabetes treated via long-term continuous insulin infusion therapy

943 Continuous subcutaneous insulin infusion in patients with type 2 diabetes safely improved glycaemic control using a simple insulin dosing regimen
S.V. Edelman, B.W. Bode, T.S. Bailey, M.S. Kipnes, X. Chen, J.P. Frías, United States

944 Intensified insulin therapy vs CSII: the influence on family cohesion and adaptability of type 1 diabetics

945 Retrospective case-controlled long-term study on continuous subcutaneous insulin infusion vs multiple daily injections for functional insulin treatment in type 1 diabetes
K. Howorka, J. Pumprla, M. Puck, N. Howorka, E. Perneczky, I. Mihaljevic, Austria

946 Integrated real-time continuous glucose monitoring/insulin pump system (PRT) usefulness in 122 children with type 1 diabetes. A 3-year follow-up study
PS 086 Diabetes education

Chair: M. Porta, Italy

988 Comparison between the “Diabetes Interactive Diary” telemedicine system and standard carbohydrate counting education: an open label, international, multicentre, randomised study
G. Vespasiani, M.C. Rossi, P. Di Bartolo, C. Sardu, D. Bruttomesso, M. Dal Pos, A. Girelli, E. Zarra, F. Ampudia, D. Kerr, A. Ceriello, C. De La Cuesta, F. Pellegrini, D. Horwitz, A. Nicolucci, Italy, Spain, United Kingdom, United States

989 Impact of the READ (Ramadan focused Education and Awareness in Diabetes) programme on HbA1c, weight and hypoglycaemia
V. Bravis, E. Hui, B. Gohel, S. Salih, S. Mehar, D. Devendra, United Kingdom

990 International diabetes management practices study (IDMPS): outcomes comparison between educated and non educated people with type 2 diabetes
J.J. Gagliardino, P. Aschner, S.H. Baik, J. Chan, N. Hancu, H. Ilkova, A. Ramachandran, Argentina, Colombia, Republic of Korea, Hong Kong, Romania, Turkey, India

991 Evaluating self-management support in type 1 diabetes: design and baseline data from the Irish Dose Adjustment for Normal Eating (DAFNE) Study
S.F. Dinneen, M. O'Hara, J. Newell, M. Byrne for the Irish DAFNE Study Group, Ireland

992 Patient Engagement And Coaching for Health (PEACH): baseline characteristics of patients with type 2 diabetes in cluster RCT of intensive treatment in general practice in Australia
D. Young, J.S. Furler, I.D. Blackberry, J.D. Best, on behalf of PEACH study investigators, Australia

993 Attitudes and beliefs on self-care of diabetic foot among patients

994 Self-monitoring of blood glucose in patients with type 2 diabetes who are not using insulin: a 1-year randomised controlled trial

995 Successful optimizing of intensified insulin therapy using a new structured treatment and teaching programme for outpatients with diabetes mellitus type 1
U.A. Müller, N. Müller, C. Kloos, R. Fahr, A. Fahr, K. Opel, A. Opel, G. Wolf, Germany

996 Cost-efficacy of group care in the management of type 2 diabetes. Economic evaluation of the ROMEO (Rethink Organization to iMprove Education and Outcomes) data set
M. Trento, J. Sicuro, L. Semperbene, P. Bondonio, F. Cavallo, M. Porta, Italy
PS 092 Health economics

Chair: K. Khunti, United Kingdom

1037 Obesity increases healthcare resource use in patients with type 2 diabetes: a UK database analysis
B.P. Wilson, L. Watson, J. Alsop, S. Kumar, United Kingdom

1038 Cost and resource use following insulin initiation in Europe: 24-month follow up data from the INSTIGATE study
H.T. Smith, A. Liebl, S. Jones, M. Benroubi, C. Castell, A. Goday, C. Nicolay, A. Simpson, United Kingdom, Germany, Greece, Spain

1039 Swedish patients with type 2 diabetes show willingness-to-pay for health improvements including weight loss, reduction in hypoglycaemia and glycaemic control
J. Jendle, O. Torffvit, M. Ridderstråle, M. Lammert, Å. Ericsson, M. Bøgelund, Sweden, Denmark

1040 Patient willingness-to-pay for liraglutide and exenatide in Sweden based on head-to-head clinical trial results
M. Ridderstråle, O. Torffvit, M. Lammert, B. Nilsen, M. Bøgelund, J. Jendle, Sweden, Denmark

1041 Cost-effectiveness of motivational enhancement therapy with and without cognitive behaviour therapy for type 1 diabetes

1042 Assessment of healthcare resource utilization among type 2 diabetic patients with pre-existing macrovascular comorbidities in Europe: a matched cohort study
P. Mavros, Y. Qiu, L. Radican, D. Yin, A.Z. Fu, United States

1043 Pharmacoeconomic analysis for the future treatment of diabetes mellitus after gestational diabetes

1044 Health care expenditures following initiation of insulin glargine or exenatide in type 2 diabetic patients on oral agents in US
W.H. Herman, Q. Zhang, J. Rosenstock, United States

1045 Cost-effectiveness analysis of medical intervention in patients with early detection of diabetic nephropathy in a tertiary care hospital in Bangladesh
S.H. Habib, S. Saha, S. Akter, L. Ali, Bangladesh
PS 098 Hypertension

Chair: P.E. Valensi, France

1093 Effects of telmisartan on glucose metabolism, lipid profile and adiponectin in patients with type 2 diabetes complicated with hypertension
H. Mori, Y. Okada, Y. Tanaka, Japan

1094 Lipidomic profiling reveals a deficiency of ether lipids in blood plasma of men with hypertension
J. Graessler, D. Schwudke, P.E. Schwarz, R. Herzog, A. Shevchenko, S.R. Bornstein, Germany

1095 Inverse relation between hypertension and FASN expression in adipose tissue

1096 Glucose intolerance strongly correlates with high blood pressure in normocholesterolaemic morbidly obese women
A.R. Gagliardi, T.C. Valente, F.A. Savioli, M.I. Torres, A.J. Leal, L. Leal, M.C. Dinato, E.P. Heilbrun, Brazil

1097 Pattern of expression of inflammatory markers in adipose tissue of untreated patients with essential hypertension
A. Solini, S. Madec, M. Chiarugi, E. Santini, C. Rossi, E. Ferrannini, Italy

1098 On the relation of visceral obesity, insulin resistance, CRP and blood pressure in a general population: the Rijswijk study
N. Tjeerdema, M.J. Van Glabbeek, J.T. Tamsma, Netherlands

1099 Short sleep duration is associated with blood pressure non dipping pattern in type 1 diabetes: the DIAPASOM study

1100 Blood pressure levels and dipping pattern are determined by insulin resistance independently from fat mass and adiponectin interaction in premenopausal obese women
J. Silva-Nunes, L. Duarte, L. Veiga, A. Melao, M. Brito, F. Malheiro, Portugal
1139 Deletion of the redox enzyme p66shc promotes diabetic wound healing in mice
G. Fadini, M. Albiero, L. Menegazzo, E. Boscaro, C. Agostini, A. Lapolla, M. Giorgio, A. Avogaro, Italy

1140 Modified epidermal growth factor (FRM-EGF) gene therapy markedly improved histologic findings of diabetic mice skin wound
J. Park, C. Yoon, H. Jung, J. Ko, H. Jun, T. Kim, M. Kwon, S. Lee, K. Ko, B. Rhee, S. Chung, M. Kim, Republic of Korea

1141 Estrogen receptor beta modulates wound healing in diabetes
V.G. Sunkari, J. Grünler, S. Lindberg, O. Savu, I. Botusan, K. Brismar, K.R. Steffensen, S.-B. Catrina, Sweden

1142 Effects of PKF275-055 in peripheral diabetic neuropathy
R. Bianchi, I. Cervellini, C. Porretta-Serapiglia, N. Oggioni, B. Burkley, G. Cavaletti, Italy, United States

1143 The functions of bone marrow-derived mononuclear cells and their therapeutic efficacy on diabetic polyneuropathy are affected by their age

1144 The efficacy of methylcobalaminamin was influenced by diabetic conditions on experimental peripheral neuropathy via IGF-1
L. Jianbo, J. Chen, C. Wang, X. Li, H. Ma, China

1145 Angiotensin II type-1 receptor blocker olmesartan increases neuronal expression of angiotensin II receptors in dorsal root ganglia and ameliorates diabetic peripheral neuropathy in Zucker diabetic fatty rats
K. Sugimoto, M. Baba, M. Yasujima, Japan

1146 Loss of glyoxalase-1 promotes hyperalgesia in early diabetic neuropathy
S.B. Stoyanov, T. Fleming, P.M. Humpert, S. Sauer, N. Rabbani, D. Edelstein, P.J. Thornalley, P. Reeh, M. Brownlee, P.P. Nawroth, A. Bierhaus, Germany, United Kingdom, United States

1147 Exercise training retarded peripheral neuropathy symptoms with heat shock protein 72 overexpression in type 1 diabetic rats
Y.-W. Chen, P.-L. Hsieh, C.-H. Hung, Taiwan

1148 Research about inhibition of MMP9 expression in dermal fibroblast by siRNA
X.Y. Xie, C. Yang, L. Yan, China

1149 Selective inhibition of disease-related thermal hyperalgesia by tapentadol
in a mouse model of diabetic neuropathic pain
T. Christoph, J. De Vry, T.M. Tzschentke, Germany
PS 110 Intrauterine development and observations in children

Chair: R.W. Holl, Germany

1196 Maternal undernutrition during the first half of gestation accelerates the age-related insulin resistance, and promotes hepatic lipid deposition in the adult offspring in a sex-specific manner

1197 Intrauterine milieu influences the mRNA expression and the wiring of anorexigenic POMC cells in the arcuate nucleus of offspring from diabetic and/or obese dams in mice
B. Sarman, Z. Liu, E. Borok, M. Shanabrough, J. Bruening, X. Gao, T. Horvath, United States, Germany

1198 FTO is expressed in human placenta and is related to birth weight and placental visfatin
J. Bassols, A. Prats-Puig, M. Martínez-Pascual, P. Avellí, R. Martínez-Martínez, M. Gifre, M. Piqué, M. Bruel, J. Reid, L. Ibáñez, A. López-Bermejo, Spain

1199 Maternal fatty acid status during pregnancy and risk of type 1 diabetes in the offspring
I.M. Sørensen, G. Joner, P.A. Jenum, A. Eskild, L.C. Stene, Norway

1200 Insulin resistance and secretion indexes in healthy Italian children and adolescents: a multicentre study
G. D'Annunzio, M. Vanelli, A. Pistorio, N. Minuto, L. Bergamino, D. Iafusco, R. Lorini, Italy

1201 Coeliac disease precedes the development of type 1 diabetes in children with both diseases
G.E. Frisk, I. Dahlbom, T. Tuvelmo, T. Hansson, Sweden

1202 Withdrawn

1203 Genetic dependence of urinary enzyme, neutral alpha-glucosidase, in diabetic nephropathy in Uzbek children and adolescents with type 1 diabetes mellitus
A.S. Sadykova, Uzbekistan
PS 116 Statins

Chair: H. Drexel, Austria

1247 Circulating neopterin and monocyte chemoattractant protein-1 are responsive to statin therapy but are poor predictors of cardiovascular events in type 2 diabetes in CARDS
H.M. Colhoun, D.J. Betteridge, P.N. Durrington, G. Hitman, H.A. Neil, V. Charlton-Menys, W. Bao, D. DeMicco, G. Preston, S. Livingstone, J.H. Fuller, United Kingdom, United States

1248 Efficacy of fenofibric acid in combination with atorvastatin in patients with type 2 diabetes mellitus and mixed dyslipidaemia
D.J. Sleep, A.C. Goldberg, C.M. Setze, J.-C. Ansquer, M.T. Kelly, United States, France

1249 Atorvastatin treatment affects the relationships of LDL and non-HDL cholesterol with ApoB in type 2 diabetes mellitus: modification by triglycerides and CETP
P.J. Kappelle, L. Zwang, M.V. Huisman, J.D. Banga, W.J. Sluiter, G.M. Dallinga-Thie, R.P. Dullaart, Netherlands

1250 The relationship between HbA1c and cardiovascular disease in patients with Japanese hypercholesterolaemia and effect of low dose pravastatin
R. Nishimura, T. Nakagami, H. Sone, N. Tajima, Japan

1251 Atorvastatin lowers remnant-like particle cholesterol without affecting LDL size in type 2 diabetes mellitus: relevance for non-HDL cholesterol and apoB targets
R.P. Dullaart, P.J. Kappelle, G.M. Dallinga-Thie, Netherlands

1252 Long-term ezetimibe/simvastatin (E/S) + extended release niacin (N) treatment in hyperlipidaemic patients with diabetes and metabolic syndrome
S. Fazio, J.R. Guyton, J. Lin, J.E. Tomassini, A. Shah, A.M. Tershakovec, United States

1253 Influence of metabolic syndrome factors and insulin resistance on ezetimibe/simvastatin and atorvastatin treatment efficacy in patients with metabolic syndrome and moderately high/high coronary heart disease risk

1254 Effects of low-dose, long-term fluvastatin treatment on oxidative/antioxidative parameters in the pancreas and heart from streptozotocin-induced diabetic rats
A. Irat, A. Cumaoglu, E. Yuksel, T. Akhayeva, C. Karasu, A. Aricioglu, G. Ozansoy, N. Ari, Turkey
PS 122 Oxidative stress

Chair: G. Pugliese, Italy

1292 The effect of glucose and glucose metabolites on calcium-induced mitochondrial permeability transition (MPT)
J. Skrha jr., J. Gall, R. Buchal, E. Sedlackova, J. Platenik, Czech Republic

1293 High dose metformin therapy reduces glycation and oxidative damage to apolipoprotein B100 and may decelerate atherosclerosis in patients with type 2 diabetes
N. Rabbani, M. Varma Chittari, D. Zehnder, A. Ceriello, P.J. Thornalley, United Kingdom

1294 Contribution of endoplasmic reticulum stress in oxidized LDL-induced beta cell dysfunction
S. Brajkovic, D. Favre, G. Niederhäuser, G. Waeber, A. Abderrahmani, Switzerland

1295 Association between FINDRISC and systemic markers of oxidative stress
S. Kopprasch, P.E. Schwarz, G. Siegert, S.R. Bornstein, J. Graessler, Germany

1296 Inflammation, oxidative stress and endothelial function in subjects with normal, impaired and diabetic glucose tolerance

1297 No relationship between glucose variability and oxidative stress in type 2 diabetes
S.E. Siegelaar, T. Barwari, W. Kulik, J.B. Hoekstra, J.H. DeVries, Netherlands

1298 Is 1,5 AnhydroGlucitol associated with malondialdehyde a marker for oxidative stress?
J. Kuenen, R. Borg, P.G. Scheffer, T. Teerlink, H. Zheng, D. Schoenfeld, E. Button, D.M. Nathan, M. Diamant, R.J. Heine, Netherlands, Denmark, United States

1299 Whole-genome transcriptomic profile in lympho-monocytes of healthy volunteers reveals over-expression of oxidative phosphorylation and cell cycle genes in presence of increased IMT
D. Ardigò, E. Derlindati, L. Franzini, A. Dei Cas, V. Spigoni, I. Zavaroni, Italy

1300 A novel role for p53 in the regulation of oxidative stress in vascular cells in response to glucose fluctuation
B. Schisano, C. Radford, A. Harte, G. Tripathi, P. McTernan, A. Ceriello, United Kingdom
1301 Impact of glyoxalase 1 knock down on the heat shock protein expression
T. Gawlowski, B. Engelbrecht, Y. Mattern, D. Tschoepe, B. Stratmann, Germany
1349 Insulin sensitivity, hyperglycaemia and risk of all-cause mortality and cardiovascular disease events in the general population - the AusDiab study
E.L. Barr, A.J. Cameron, P.Z. Zimmet, B. Balkau, T.A. Welborn, A.M. Tonkin, J.E. Shaw, Australia, France

1350 Five-year incidence of coronary heart disease in type 2 diabetes. Comparison with the predicted risk by Framingham and UKPDS engines
A. Kofinis, A. Thanopoulou, L. Milika, E. Dimaki, M. Noutsou, E. Spanou, B. Karamanos, A. Archimandritis, Greece

1351 Glycaemic control reduces the platelet-activating factor acetylhydrolase activity (PAF-AH activity) in type 2 diabetes mellitus

1352 Prevention of cardiovascular disease through glycaemic control in type 2 diabetes. A meta-analysis of randomized clinical trials
M. Monami, C. Lamanna, N. Marchionni, E. Mannucci, Italy

1353 Osteoprotegerin is associated with markers of atherosclerosis in type 2 diabetes patients
B. Idzior-Waluś, M. Waluś-Miarka, B. Katra, D. Fedak, D. Czarnecka, M.T. Malecki, Poland

1354 Copeptin predicts and explains the association between IGFBP-1 and cardiovascular events in patients with type 2 diabetes and myocardial infarction
S.-B. Catrina, L.G. Mellbin, N.G. Morgenthaler, I.R. Botusan, L. Rydén, J. Öhrvik, K. Brismar, Sweden, Germany

1355 Type 2 diabetes and the coronary angiographic state are mutually independent predictors of future vascular events among angiographed coronary patients

1356 The metabolic syndrome is associated with maladaptive carotid remodeling - The Hoorn Study

PS 128 Cardiovascular disease and diabetes
Chair: M.T. Malecki, Poland
1357 Paraoxonase 192 Q/R gene polymorphism, enzyme activity and coronary heart disease in type 2 diabetes

1358 Relationship between carotid intima-media thickness with plaque and brachial-ankle pulse wave velocity in patients with type 2 diabetes
B. Kim, Y. Jeon, S. Kim, S. Lee, D. Lee, Y. Kang, S. Son, C. Lee, J. An, I. Kim, Y. Kim, Republic of Korea

1359 Impact of glycaemic control on the prognosis of diabetic patients with critical limb ischaemia
M. Takahara, O. Iida, S. Gorogawa, M. Ikeda, M. Kubota, H. Kaneto, M. Matsuhisa, Japan
15:00 – 16:30, Freud Hall

OP 08 Diabetic nephropathy and blood pressure

Chair: S.M. Marshall, United Kingdom, P. Rossing, Denmark

43 Higher blood pressure associated with lower mortality in elderly type 2 diabetic patients (ZODIAC-12)

44 Allelic variations in the SOD1 gene are associated with development and progression of nephropathy in type 1 diabetic subjects
K. Mohammedi, S. Maimaitiming, N. Bellili, N. Emery, R. Roussel, S. Hadjadj, F. Fumeron, G. Velho, M. Marre, France

45 Different sets of risk factors for the development of albuminuria and renal impairment in type 2 diabetes - the Swedish National Diabetes register (NDR)

46 Age at onset and sex influence the risk of developing end-stage renal disease in young patients with type 1 diabetes

47 Efficacy and safety of long-acting nifedipine (GITS) in patients with diabetes and symptomatic stable angina pectoris: insights from the ACTION trial
P.A. Meredith, H.L. Elliott, United Kingdom

48 Impact of baseline renal function on the efficacy and safety of aliskiren added to losartan in patients with type 2 diabetes and nephropathy
H.-H. Parving, F. Persson, J.B. Lewis, E.J. Lewis, N.K. Hollenberg, Denmark, United States
15:00 – 16:30, van Swieten Hall
OP 09 Diabetes in childhood

Chair: J. Ludvigsson, Sweden, E. Schober, Austria

49 Defects in the dynamic control of beta cell function and in glucose effectiveness underly the initial decline in intravenous glucose tolerance of obese European children
M. Trombetta, L. Boselli, C. Banzato, M. Surano, M. Muggeo, E. Bonora, C. Maffeis, R.C. Bonadonna, Italy

50 Tracking insulin secretion and sensitivity in children who subsequently develop diabetes: a seven year study
A.N. Jeffery, B.S. Metcalf, J. Hosking, L.D. Voss, M.J. Murphy, T.J. Wilkin, United Kingdom

51 Paediatric ONSET-Study: impaired QoL in children and depressed mood in mothers at onset of diabetes mellitus type 1 in children
B. Rami, K. Lange, R. Coutant, T. Danne, B. Aschemeier, S. Bläsig, R. Hartmann, E. Marquardt, K. Walte, N. Krug, T. Kapellen, E. Pankowska, O. Kordonouri, Austria, Germany, France, Poland

52 A new model of therapeutic education in pre-school and school-aged children with type 1 diabetes
T. Bufacchi, C. Paolo, P. Ippolita Patrizia, S. Riccardo, P. Lia, M. Antonella, C. Marco, Italy

53 Diabetes-related quality of life and glycaemic control among youth with type 1 diabetes
J.M. Lawrence, A. Anderson, G. Imperatore, E.J. Mayer-Davis, M. Seid, B. Waitzfelder, J. Yi-Frazier, United States

54 Tracking of metabolic control from pediatric onset until adulthood: metabolic control during the first year of type 1 diabetes predicts HbA1c during adulthood: DPV-analysis on 6578 patients from 300 centers
R.W. Holl, E. Schober, J. Rosenbauer, A. Herbst, J. Wolf, C. Vogel, A. Dapp, A. Thon, M. Borkenstein, German competence network diabetes and DPV initiative, Germany, Austria
15:00 – 16:30, Semmelweis Hall
OP 10 Retinopathy

Chair: M. Porta, Italy, A.K. Sjølie, Denmark

55 HbA1c and fasting plasma glucose are predictors of retinopathy at ten years: the French desir study

56 Retinal microaneurysm count predicts progression and regression of diabetic retinopathy
A.K. Sjølie, R. Klein, M. Porta, T. Orchard, J. Fuller, H.-H. Parving, R. Bilous, N. Chaturvedi, Denmark, United States, Italy, United Kingdom

57 Withdrawn

58 Effectiveness of diabetic retinopathy screening in primary health care. Agreement with the ophthalmological service

59 Thiamine and benfotiamine counter apoptosis induced by intermittent high glucose exposure in human retinal pericytes
E. Berrone, E. Beltramo, S. Tarallo, M. Porta, Italy

60 Safety and efficacy of ranibizumab treatment in patients with diabetic macular oedema: 12-months results of the RESOLVE study
K. Engelmann on behalf of the RESOLVE study group, Germany
15:00 – 16:30, Landsteiner Hall
OP 11 Fatty acids and lipids

Chair: G. Perseghin, Italy, M. Roden, Germany

61 Serum and adipose tissue adipokine concentrations are affected by non-esterified fatty-acids in healthy individuals

62 Skeletal muscle fatty acid handling in the pre-diabetic state
C.C. Moors, G.H. Goossens, N.J. Van der Zijl, M. Diamant, E.E. Blaak, Netherlands

63 Non-esterified fatty acids dynamics during an oral glucose tolerance test in women with a history of gestational diabetes
A. Tura, G. Di Benedetto, U. Morbiducci, Y. Winhofer, F. Montevecchi, G. Pacini, M. Roden, A. Kautzky-Willer, Italy, Austria, Germany

64 Ursodesoxycholic acid (UDCA) promotes the hepatic oxidation of free-fatty acids in Zucker fatty rats
P.M. Nunes, J.G. Jones, C.M. Palmeira, R.A. Carvalho, Portugal

65 Osteopontin deficiency prevents obesity-associated hepatic steatosis and insulin resistance
F.W. Kiefer, M. Zeyda, S. Neschen, K. Gollinger, B. Pfau, A. Neuhofer, T. Weichhart, L. Kenner, T.M. Stulnig, Austria, Germany

66 Contribution of intra-abdominal and liver fat to components of the metabolic syndrome
15:00 – 16:30, Cori Hall
OP 12 Protecting beta cell mass and function

Chair: D.L. Eizirik, Belgium, M.L. Hribal, Italy

67 Evaluation of the effect of GLP-1 receptor activation on ER stress mediated beta cell damage in Akita mice
S. Yamane, Y. Hamamoto, N. Harada, K. Toyoda, Y. Seino, N. Inagaki, Japan

68 The once-daily human GLP-1 analogue liraglutide increases the beta cell mass in normoglycaemic mice by directly accelerating cell differentiation and proliferation
M. Shimoda, Japan

69 Gene profiles of islets after combined treatment with sitagliptin and metformin in Zucker diabetic fatty rats
S. Han, S.-E. Choi, J. Jung, H. Kim, K. Lee, Y. Kang, D. Kim, Republic of Korea

70 The direct effects of DPP-4 inhibition on isolated human islets include protection from glucotoxicity
V. D'Aleo, S. Del Guerra, F. Filipponi, U. Boggi, P. Marchetti, R. Lupi, Italy

71 Prevention of islet of Langerhans degeneration with rosiglitazone: demonstration of a novel automated image analysis approach with dual insulin and collagen immunohistochemistry
H.B. Jones, A.L. Bigley, K.J. Randall, United Kingdom

72 The SGLT2 inhibitor dapagliflozin prevents the disruption of pancreatic islet morphology in the high fat-fed-female ZDF rat
J.E. Peel, R.F. Macdonald, L. Westgate, H.B. Jones, S.M. Poucher, R.M. Mayers, J. Whaley, United Kingdom, United States
15:00 – 16:30, Halban Hall
OP 13 Type 2 diabetes mellitus genetics and genomics

Chair: V. Lyssenko, Sweden, M.I. McCarthy, United Kingdom

73 Genome-wide association meta-analysis and replication involving 141,547 individuals of European descent identifies further loci influencing type 2 diabetes risk
M.I. McCarthy for the Diabetes Genetics Replication And Meta-analysis (DIAGRAM) Consortium, United Kingdom

74 Genome-wide analysis of African American type 2 diabetes
D.W. Bowden, N.P. Allred, M.C. Ng, C.D. Langefeld, B.I. Freedman, United States

75 Genome-wide meta-analysis identifies novel genetic loci associated with OGTT-induced post-challenge glucose
C. Langenberg, R. Saxena, M.-F. Hivert, T. Tanaka, J.S. Pankow, V. Lyssenko, N. Boutia-Naji, W.H.L. Kao, A. Jackson, J. Dupuis, P. Vollenweider, R.M. Watanabe for MAGIC, United Kingdom, United States, Sweden, France, Switzerland

76 Novel genetic loci implicated in fasting glucose homeostasis and their impact on related metabolic traits
I. Prokopenko, J. Dupuis, C. Langenberg, R. Saxena, N. Soranzo, A.U. Jackson, E. Wheeler, N.L. Glazer, R. Magi, N. Bouatia-Naji, J.C. Florez, I. Barroso for the MAGIC investigators, United Kingdom, United States, France

77 Decreased TCF7L2 protein levels in type 2 diabetes mellitus correlated with downregulation of GIP and GLP-1 receptors and impaired beta cell function
L. Shu, A.V. Matveyenko, J. Kerr-Conte, J.-H. Cho, C.H. McIntosh, K. Maedler, Germany, United States, France, Republic of Korea, Canada

78 The impact of differential splicing of TCF7L2 on target gene expression in human islet of Langerhans
Y. Zhou, S. Lang, J. Taneera, E. Renström, L. Groop, O. Hansson, Sweden
15:00 – 16:30, Basch Hall
OP 14 Endothelium and coagulation

Chair: C.D.A. Stehouwer, Netherlands, M. Trovati, Italy

79 MiR-217 regulates aging and angiogenic functions in human endothelium via SirT1
R. Menghini, V. Casagrande, M. Cardellini, E. Martelli, A. Terrinoni, F. Amati, A. Ippoliti, G. Novelli, G. Melino, R. Lauro, M. Federici, Italy

80 Endothelial and endocrine alterations in diabetic pancreas. Role of angiopoietin-2 and thrombospondin-1
S. Calderari, C. Chougnet, M. Clemessy, H. Kempf, P. Corvol, E. Larger, France

81 Tissue Factor pre-mRNA splicing in platelets from healthy subjects and type 2 diabetes mellitus patients

82 Absence of fibronectin EDA exon increases endothelial dysfunction and oxidative stress in diabetic mice aortas
G. Gortan Cappellari, M. Boschelle, V. Spadotto, R. Barazzoni, L. Cattin, F.E. Baralle, G. Guarnieri, A.F. Muro, M. Zanetti, Italy

83 Intracellular methylglyoxal levels explain hyperglycaemia-induced impaired endothelium-dependent vasorelaxation in an oxidative stress-dependent pathway
O. Brouwers, P.M. Niessen, T. Miyata, M. Brownlee, C.D. Stehouwer, J.G. De Mey, C.G. Schalkwijk, Netherlands, Japan, United States

84 Relations between endothelial function and peripheral microcirculation and cardiac autonomic neuropathy in type 2 diabetic patients
A.H. Belhadj-Mostefa, M.K. Bourahli, F. Touati, M. Nguyen, D. Roula, P.E. Valensi, Algeria, France

16:30 – 16:45 Break
16:45 – 17:45, Freud Hall
24th Camillo Golgi Lecture
Chair: G. Menzinger, Italy, U. Smith, Sweden
P.-H. Groop, Finland: Diabetic nephropathy - means, motive and opportunity

16:45 – 17:45, van Swieten Hall
3rd Albert Renold Lecture
Chair: P.A. Halban, Switzerland
B. Thorens, Switzerland: Pancreatic islets as a key node in an integrated network of gluco-regulatory organs

16:45 – 18:45, Semmelweis Hall
Rising Star Symposium
Chair: T.R. Pieber, Austria, M. Stumvoll, Germany
G.P. Fadini, Italy: Endothelial progenitor cells in diabetes and its complications
V.A. Gault, United Kingdom: Established and emerging actions of GIP: possible therapeutic implications for diabetes including cognitive function
C. Herder, Germany: Pro- and anti-inflammatory immune mediators in the development of type 2 diabetes
V. Lyssenko, Sweden: Genetics unravels novel pathways in the pathogenesis of type 2 diabetes