



Science Report 2010

Profil Institut für Stoffwechselforschung GmbH

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Summary

Scientific Publications	
Original Articles	11 (Σ IF ₂₀₀₉ : 32,876)
Reviews	6 (Σ IF ₂₀₀₉ : 9,880)
Letters and Comments	2 (Σ IF ₂₀₀₉ : 13,269)
Cumulative Impact Factor	56,025
Habilitation	1
Scientific Congress Presentations	
Oral Presentations	12
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Advanced Training Courses	
Science Sessions	9
Trainings with External Participants	6
Scientific Communication	
Newspaper articles	8
Granted Research Projects	3
Awards & Appointments	3

Scientific Publications

Original Articles

1. Kapitza C, Zdravkovic M, Zijlstra E, Segel S, Heise T, Flint A Effect of three different injection sites on the pharmacokinetics of the once-daily human GLP-1 analogue liraglutide. **J Clin Pharmacol**, in press, 2010 IF₂₀₀₉: 3,442
2. Bonadonna RC, Heise T, Arbet-Engels C, Kapitza C, Avogaro A, Grimsby J, Zhi J, Grippo JF, Balena R, Piragliatin (RO4389620), a novel glucokinase activator, lowers plasma glucose both in the postabsorptive state and after a glucose challenge in patients with type 2 diabetes mellitus: a mechanistic study. **J Clin Endocrinol Metab**, 95(11):5028-36, 2010 IF₂₀₀₉: 6,202
3. Arnolds S, Rave K, Hövelmann U, Fischer A, Sert-Langeron C, Heise T Insulin glulisine has a faster onset of action compared with insulin aspart in healthy volunteers. **Exp Clin Endocrinol Diabetes**, 118(9):662-4, 2010 IF₂₀₀₉: 1,685
4. Ratner R, Nauck M, Kapitza C, Asnaghi V, Boldrin M, Balena R Safety and tolerability of high doses of taspoglutide: a once weekly human GLP-1 analogue in diabetic patients treated with metformin: a randomized double-blind placebo-controlled study. **Diabet Med**; 27:556-562, 2010 IF₂₀₀₉: 2,871
5. Arnolds S, Dellweg S, Clair J, Dain MP, Nauck MA, Rave K, Kapitza C Further improvement in postprandial glucose control when adding exenatide (EXE) or sitagliptin (SITA) to combination therapy with insulin glargine (GLAR) and metformin (MET) - a proof-of-concept study. **Diabetes Care** 33:1509–1515, 2010 IF₂₀₀₉: 6,718
6. Heise T, Mathieu C, Hey-Hadavi J, Strack T, Lawrence D Glycemic control with preprandial versus basal insulin in patients with type 2 diabetes mellitus poorly controlled by oral antidiabetes agents. **Diabetes Technol Ther** 12:135-141, 2010 IF₂₀₀₉: 2,620
7. Kapitza C, Zijlstra E, Heinemann L, Castelli MC, Riley G, Heise T Oral insulin: a comparison with subcutaneous regular human insulin in patients with type 2 diabetes. **Diabetes Care** 33:1288-90, 2010 IF₂₀₀₉: 6,718
8. Kapitza C, Hövelmann U, Nosek L, Kurth HJ, Essenpreis M, Heinemann L Continuous glucose monitoring during exercise in patients with type 1 diabetes on continuous subcutaneous insulin Infusion. **J Diabetes Sci Technol** 4:123-131, 2010 IF₂₀₀₉: -
9. Rave K, Sidharta PN, Dingemans J, Heinemann L, Roggen K First-phase insulin secretion has limited impact on postprandial glycemia in subjects with type 2 diabetes: correlations between hyperglycemic glucose clamp and meal test. **Diabetes Technol Ther** 12:117-123, 2010 IF₂₀₀₉: 2,620
10. Chan A, Heinemann L, Anderson S, Breton M, Kovatchev B Nonlinear metabolic effect of insulin across the blood glucose range in patients with T1DM. **J Diabetes Sci Technol** 4(4):873-81, 2010 IF₂₀₀₉: -
11. Marx R, Jax TW, Perings S, Schannwell M, Sunderdiek U, Gülker H Evaluation of early and late postoperative flow capacity of internal thoracic artery bypass by means of stress Doppler echocardiography. **Interact Cardiovasc Thorac Surg** 10(6):1003-8, 2010 IF₂₀₀₉: -

Reviews

1. Arnolds S, Kuglin B, Kapitza C, Heise T How pharmacokinetic and pharmacodynamic principles pave the way for optimal basal insulin therapy in type 2 diabetes International. **Int J Clin Pract** 64(10): 1415–1424, 2010 IF₂₀₀₉: 2,245
2. Jax TW Metabolic memory: a vascular perspective. **Cardiovasc Diabetol** 9:51-58, 2010 IF₂₀₀₉: 2,770
3. Kempf K, Martin S, Heise T Blutzuckermessgeräte für Patienten. **Der Hausarzt** 12:34-37, 2010 IF₂₀₀₉: -
4. Heinemann L Quality of glucose measurement with blood glucose meters at the point-of-care: relevance of interfering factors. **Diabetes Technol Ther** 12:847-857, 2010 IF₂₀₀₉: 2,620
5. Heinemann L New ways of insulin delivery. **Int J Clin Pract** Suppl 64 (s166):29-40, 2010 IF₂₀₀₉: 2,245
6. Heinemann L Insulin absorption from lipodystrophic areas: a (neglected) source of trouble for insulin therapy? **J Diabetes Sci Technol** 3:750-753, 2010 IF₂₀₀₉: -

Letters and Comments

1. Heinemann L Insulin assay standardization: leading to measures of insulin sensitivity and secretion for practical clinical care: response to Staten et al. **Diabetes Care** 33(6):e83, 2010 IF₂₀₀₉: 6,718
2. Schneider B, Martin S, Scherbaum WA, Heinemann L, Ludwig V, Kolb H Immortal time bias does not invalidate the association of self-monitoring of blood glucose with better survival of patients with type 2 diabetes in the epidemiological study ROSSO. **Diabetologia** (in press) 2010 IF₂₀₀₉: 6,551

Habilitation

1. Jax TW Intravasale Mechanismen der Atherosklerose: Bedeutung der vaskulären Homöostase. Habilitation 2010, Universität Witten/Herdecke

Scientific Congress Presentations

Oral Presentations

American Diabetes Association's 70th Scientific Sessions Orlando, FL, June 25-29, 2010

1. Heise T, Tack CJ, Cuddihy BM, Davidson J, Gouet D, Liebl A, Bobillo ER, Mersebach H, Dykiel P, Jorde R Once-daily use of a new generation ultra-long acting basal insulin with a bolus boost in insulin-naïve subjects with type 2 diabetes: comparison with insulin glargine. **Diabetes** 59 (Suppl 1):34–OR, 2010
2. Heise T, Nosek L, Gable J, Lim G, Calentine C Intensive care unit (ICU) glucose monitoring measured in plasma using mid-infrared spectroscopy. **Diabetes** 59 (Suppl 1):127–OR, 2010
3. Zijlstra E, Hartlep M, O'Connell M, Heise T, Künnecke W Accuracy of a novel continuous glucose monitoring system (CGMS) using intravenous (iv) microdialysis. **Diabetes** 59 (Suppl 1):126–OR, 2010

46th Annual Meeting of the European Association for the Study of Diabetes (EASD) Stockholm, Sweden, September 21-24, 2010

1. Nosek L, Heise T, Flacke F, Krasner A, Pichotta P, Heinemann L, Steiner SS A Novel pH-neutral formulation of the monomeric insulin VIAject® has a faster onset of action than insulin lispro. **Diabetologia** 53 (Suppl 1):S6, 2010
2. Heckermann S, Leszek N, Zijlstra E, Heise T Accuracy of a continuous glucose monitoring system (CGMS): still room for improvement. **Diabetologia** 53 (Suppl 1):48, 2010
3. Heise T, Nosek L, Gable J, Lim G, Calentine C Intensive care unit (ICU) glucose monitoring measured in plasma using mid-infrared spectroscopy. **Diabetologia** 53 (Suppl 1):231, 2010

3rd International Conference on Advanced Technologies & Therapies for Diabetes Basel, Switzerland, February 10-13, 2010

1. Heinemann L New ways of insulin delivery 3rd International Conference on Advanced Technologies & Therapies for Diabetes, 2010

45. Jahrestagung der Deutschen Diabetes-Gesellschaft Stuttgart, Germany, May 12-15, 2010

1. Heinemann L Evidenz für die Nutzung verschiedener Bolus-Typen bei der CSII-Therapie 45. DDG, 2010

14th International Symposium on Hepatic encephalopathy and Nitrogen Metabolism Val-David, Canada, September 14-18, 2010

1. Schliess F Ammonia increases nitric oxide, free zinc and metallothionein (MT-1) mRNA expression in cultured astrocytes and MT-1 mRNA expression in rat brain in vivo, 14th ISHE, 2010

4. Herbsttagung der Deutschen Diabetes-Gesellschaft Berlin, Germany, November 4-6, 2010

1. Heinemann L Forschung zur Versorgung in Schwerpunktpraxen – Annäherung an eine (fast) unbekannte Welt“ 4. Herbsttagung der Deutschen Diabetes-Gesellschaft Berlin, 2010

10th Diabetes Technology Meeting Bethesda, MD, November 11-13, 2010

1. Heinemann L The future of lancing devices. 10th Diabetes Technology Meeting, Pre-meeting workshop C: new ideas for blood glucose monitoring, 2010

Lifestyle & Aging, Pisa, Italy, October 4-5, 2010

1. Heer M Impact on bone metabolism and acid base balance in microgravity and analog studies. Lifestyle & Aging, 2010

Poster Presentations

American Diabetes Association´s 70th Scientific Sessions Orlando, FL, June 25-29, 2010

1. Heise T, Nosek L, Flacke F, Krasner A, Pichotta P, Heinemann L, Steiner S A novel pH-neutral formulation of the monomeric insulin VIAject® has a faster onset of action than insulin lispro. **Diabetes** 59 (Suppl 1):622–P, 2010
2. Heckermann S, Nosek L, Zijlstra E, Heise T Accuracy of a Continuous Glucose Monitoring System (CGMS): Still Room for Improvement. **Diabetes** 59 (Suppl 1):489–P, 2010
3. Becker RHA, Ruus P, Steintraesser A, Kapitza C Restoration of insulin release with Lixisenatide in patients with type 2 diabetes. **Diabetes** 59 (Suppl1):552-P, 2010
4. Pellenda C, Mangold B, Schulte M, Niggli M, Kapitza C Phase I study of Taspoglutide immediate release formulation (IRF) on insulin secretion in patients (pts) with type 2 diabetes (T2D). **Diabetes** 59 (Suppl1):588-P, 2010
5. Kapitza C, Jax T, Nilsson S, Breuer O KB003305, a liver-targeted glucocorticoid receptor antagonist: a first-in-man study to investigate safety, tolerability, pharmacodynamics, and pharmacokinetics of single oral doses in healthy male volunteers. **Diabetes** 59 (Suppl1):694-P, 2010
6. Jax T, Kapitza C, Nilsson S, Breuer O The Effect of KB003305, a liver-targeted glucocorticoid receptor antagonist, on fasting plasma glucose and oral glucose tolerance after multiple oral doses in patients with diabetes type 2. **Diabetes** 59 (Suppl1):605-P, 2010
7. Kolb H, Herder C, Schloot NC, Koenig W, Heise T, Heinemann L, Martin S Impact of Atorvastatin treatment on residual beta cell function in recent-onset type 1 diabetes. **Diabetes** 59 (Suppl 1):396-PP, 2010
8. Heise T, Seewaldt-Becker E, Macha S, Hantel S, Huber K, Pinnetti S, Seman L, Woerle HJ BI 10773, a sodium-glucose co-transporter inhibitor (SGLT-2), is safe and efficacious following 4-week treatment in patients with type 2 diabetes. Diabetes 59 (Suppl 1):629–P, 2010

9. Seman L, Macha S, Jones P, Marquart A, Port A, Pinnetti S, Heise T, Dugi KA Safety and tolerability of BI 10773, a sodium-glucose co-transporter (SGLT-2) inhibitor following 8-days treatment in patients with type 2 diabetes. **Diabetes** 59 (Suppl 1):571–P, 2010
10. Potocka E, Hovorka R, Baughman R, Klein O, Dellweg S, Umpleby M, Haworth P, Mills R, Boss AH, Richardson PC Characterization of metabolism parameters following Technosphere® insulin and insulin Lispro. **Diabetes** 59 (Suppl 1):1561–P, 2010
11. Sha S, Devineni D, Ghosh A, Polidori D, Hompesch M, Arnolds S, Morrow L, Spitzer H, Blake J, Wexler D, Tan Y, Smulders K, Demarest K, Rothenberg P Canagliflozin, a novel inhibitor of sodium glucose co-transporter 2, improved glucose control in subjects with type 2 diabetes and was well tolerated. **Diabetes** 59 (Suppl 1):568–P, 2010
12. Breton M, Heinemann L, Keith S, Pettis RJ, Kovatchev B Comparison between intradermal and subcutaneous insulin delivery via a novel biphasic model of insulin absorption. **Diabetes** 59 (Suppl 1):525-P, 2010

46th Annual Meeting of the European Association for the Study of Diabetes (EASD) Stockholm, Sweden, September 21-24, 2010

1. Graefe-Mody U, Friedrich C, Port A, Ring A, Heise T, Halabi A, Woerle HJ Linagliptin, a novel DPP-IV inhibitor: no need for dose adjustment in patients with renal impairment. **Diabetologia** 53 (Suppl 1):822, 2010
2. Becker RH, Ruus P, Liu YH, Kapitza C Restoration of insulin release with lixisenatide in patients with type 2 diabetes. **Diabetologia** 53 (Suppl1): 0850, 2010
3. Rothenberg PL, Devineni D, Ghosh A, Polidori D, Hompesch M, Arnolds S, Morrow L, Spitzer H, Blake J, Wexler D, Tan Y, Smulders K, Demarest K, Sha S Canagliflozin, a novel inhibitor of sodium glucose co-transporter 2, improved glucose control in subjects with type 2 diabetes: results of a phase 1b study. **Diabetologia** 53 (Suppl 1):875, 2010
4. Heise T, Hermanski L, Nosek L, Feldmann A, Rasmussen S, Stryhn TK, Haahr H Insulin degludec: less pharmacodynamic variability than insulin glargine under steady state conditions. **Diabetologia** 53 (Suppl 1):971, 2010
5. Cuddihy, T., Tack CJ, Heise T, Davidson JA, Gouet D, Liebl A, Romero E, Mersebach H, Dykiel P, Jorde R Once daily use of a new-generation, ultra-long-acting basal insulin with a bolus boost in insulin naïve people with type 2 diabetes: comparison with insulin glargine. **Diabetologia** 53 (Suppl 1):975, 2010

3rd International Conference on Advanced Technologies & Therapies for Diabetes Basel, Switzerland, February 10-13, 2010

1. Breton MD, Chan A, Keith S, Pettis RJ, Kovatchev BP, Heinemann L Pharmacodynamic and pharmacokinetic analysis of micro-needle based intradermal insulin delivery using a biphasic model. ATTD 2010 yearbook, in press, 2010

30th International Symposium on Intensive Care and Emergency Medicine Brussels, Belgium, March 9-12, 2010

1. Heise T, Nosek L, Gable J, Lim G, Calentine C ICU glucose monitoring measured in plasma using mid-infrared spectroscopy. **Critical Care** 2010, 14 (Suppl 1):P580, 2010

45. Jahrestagung der Deutschen Diabetes-Gesellschaft Stuttgart, Germany, May 12-15, 2010

1. Martin S, Herder C, Schloot NC, Koenig W, Heise T, Heinemann L, Kolb H für die DIATOR Studiengruppe Erhalt der endogenen Insulinproduktion beim neu diagnostizierten Typ 1-Ddiabetes bei Behandlung mit Atorvastatin. 45. DDG: P121, 2010
2. Thomas A, Schönauer MFH, Schnell O, Hanefeld M, Ziegelasch H-J, Heinemann L Das "Glukosepentagon" – ein model zur Vereinigung der langfristigen und akuten glykämischen Einstellung. 45. DDG: P223, 2010

European Society of Cardiology Congress 2010, Stockholm, Sweden, August 28–September 1

1. Doerr R, Spitzer SG, Stumpf J, Otter W, Tschoepe D, Heinemann L, Hunger-Dathe W, Kulzer B, Lohmann T, Schnell O HbA1c is not suitable for early detection of silent diabetes in routine catheterisation laboratory patients with known or suspected coronary artery disease. ESC 2010:P3122, 2010
2. Jax TW, Peters, Kreis, Schmidt, Kelm, Heintzen, Siebler, Schoebel Specificity of contrast transcranial Doppler and echocardiography for detection of patent foramen: comparison with mechanical probing of the interatrial septum during cardiac catheterization. ESC 2010: P3061, 2010

10th Diabetes Technology Meeting Bethesda, MD, November 11-13, 2010

1. Zijlstra E, Hartlep M, O'Connell M, Heise T, Künnecke W Accuracy of a novel continuous glucose monitoring system (CGMS) using intravenous (iv) microdialysis 10th Diabetes Technology Meeting: A172, 2010

Advanced Training Courses

Science Sessions

1. 25. Februar 2010
Effects of n-3 fatty acids on macro- and microvascular function in T2DM
Dr. Alin Stirban
Heart and Diabetes Center Bad Oeynhausen, Germany
2. 22. März 2010
Experimental bed rest as a model for inactivity-induced metabolic syndrome
Prof. Dr. Gianni Biolo
Department of Clinical Morphological and Technological Sciences, Division of Internal Medicine, University of Trieste, Italy
3. 5. Mai 2010
Hitzeschockproteine in der Pathogenese des Diabetes
PD Dr. Volker Burkart
Leiter der Arbeitsgruppe "Immunpathogenese des Diabetes" am DDZ in Düsseldorf, Germany
4. 14. Juli 2010
Praxisrelevante Versorgungsforschung Post-Zulassung von Medikamenten
Dr. med. Matthias Kaltheuner
Gemeinschaftspraxis für Innere Medizin & Diabetologie & Allgemeinmedizin in Leverkusen, Germany
5. 25. August 2010
Micronutrients in the prevention of age-related disease
Prof. Dr. Dr. Maria Cristina Polidori
Ruhr-Universität Bochum/MedCampus Köln-Hohenlind, Germany
6. 06. Oktober 2010
Wasser hat Balken: zelluläre Wasserverschiebungen als Signalgeber bei Insulinresistenz und Hepatischer Enzephalopathie
Prof. Dr. Freimut Schliess
Director Scientific Affairs Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
"From "gluco-centric" to endpoint trials: on the relationship between sugar and heart"
PD Dr. Thomas Jax
Director Cardiometabolic Research Profil Institut für Stoffwechselforschung GmbH Neuss, Germany

7. 26. Oktober 2010
Ernährungsabhängige Erkrankungen: ein "schwer wiegendes" Problem
Prof. Dr. Peter Stehle
Direktor des Instituts für Ernährungsphysiologie der Universität Bonn, Germany
Metabolische Bilanzstudien im All und auf der Erde: Grenzen und Möglichkeiten
PD Dr. Martina Heer
Director Nutritional Health Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
Das "Metabolic Ward" – Experiment im All während der MIR 97 Mission
Dr. Reinhold Ewald
Astronaut Deutsches Zentrum für Luft- und Raumfahrt, Oberpfaffenhofen, Germany

8. 10. November 2010
Pharmakologische und Nicht-pharmakologische Perspektiven zur Behandlung des metabolischen Syndromes mit besonderem Augenmerk auf das metabolische Monitoring
Dr. Michael Boschmann
Leiter des Franz-Volhard-Centrums für Klinische Forschung (MDC & Charité) Berlin, Germany

9. 17. November 2010
Exaktheit eines Systems zur kontinuierlichen Blutzuckerbestimmung: es könnte noch besser sein
Dr. Eric Zijlstra
Scientific Study Advisor Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
Lang, länger, am längsten – Design und klinische Ergebnisse des ultralang wirkenden Analogons Insulin Degludec
Dr. Tim Heise
CEO Clinical Science Profil Institut für Stoffwechselforschung GmbH Neuss, Germany

Trainings with External Participants

1. **Betriebsbesichtigung durch Graduiertenkollegs**
Experimentelle Hepatologie (SFB575, Sprecher: Prof. Dr. D. Häussinger)
Proteininteraktionen und Modifikationen im Herzen (SFB612, Sprecher: Prof. Dr. A. Gödecke)
Nahrungsinhaltsstoffe als Signalgeber nukleärer Rezeptoren im Darm (Sprecherin: Prof. Dr. C. Esser)
24. März 2010
Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
Heinrich-Heine Universität Düsseldorf

2. **Profil Introduction Courses**
09. - 10. März 2010
Kit Gjolbye Madsen, Tove Kristiansen Stryhn, Hanne Hastrup-Nielsen
03. -07. Mai 2010
Dr. Rosa Maria Principe
25. -26. Mai 2010
Teresa Rodgaard-Jessen, Brigitte Esmarck Meiborn, Lene Jensen
07. -08. September 2010
Charlotte Lindorff Adrian, Charlotte Granhall, Henriette Solver Schou
Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
Novo Nordisk Bagsvaerd, Denmark

3. **DuET 2010 Düsseldorf Education on Trials**
14. – 15. Oktober 2010
Profil Institut für Stoffwechselforschung GmbH Neuss, Germany
Novo Nordisk Bagsvaerd, Denmark

Scientific Communication

Newspaper Articles

1. NGZ – Sonderveröffentlichung
8. Juni 2010
Take-off mit Hochtechnologie aus Neuss – Diabetes ist eine der Volkskrankheiten, die uns in der Zukunft zunehmend beschäftigen wird
2. VDI Nachrichten
11. Juni 2010
Kunstorgan bietet Diabetikern mehr Lebensqualität
3. Neuss Grevenbroicher Zeitung
03. August 2010
Meine Firma
Profil Institut: Forschen für Diabetiker
4. Stadt Kurier Neuss, Kaarst, Grevenbroich
Service - Sonderheft Starke Partner Gesundheit
29. September 2010
Profil-Institut weltweit erfolgreich
5. Neuss Grevenbroicher Zeitung
26. Oktober 2010
Stoffwechsel wird in Neuss neu erforscht
6. Westdeutsche Zeitung
27. Oktober 2010
Forschung über Diabetes
7. Westdeutsche Zeitung
08. Dezember 2010
Was der Slogan hergibt
8. Neuss Grevenbroicher Zeitung
13. November 2010
Benesch forscht für Diabetiker

Granted Research Projects

1. **AP@Home – Bringing the Artificial Pancreas Home**
EU Project 7th Framework Programme (further information: <http://www.apathome.eu/>)
2. **Clinical Application for Metabolic Profiling (EU-CLAMP)**
EU Project 7th Framework Programme
3. **Virtual Liver Network**
BMBF Project (further information: <http://www.virtual-liver.de/>)

Awards & Appointments

1. **Lutz Heinemann**
Appointed as coordinator of the European Collaborative Project AP@home
2. **Thomas Jax**
Habilitation for the subject “Internal Medicine” at University of Witten/Herdecke (Germany)
3. **Freimut Schliess**
Appointed Associate Professor at Heinrich-Heine-University of Düsseldorf (Germany)