Science Report 2013

Profil Germany
## Summary

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### Scientific Congress Presentations

- Oral Presentations: 16
- Poster Presentations: 34

### Advanced Training Courses

- Science Sessions: 6
- Trainings with External Participants: 7

### Granted Research Projects

- 6

### Awards & Appointments

- 5
Details

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<tr>
<th>Scientific Publications</th>
<th>Profil author first or last position</th>
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Scientific Publications

Original Articles

   A combination of whey protein and potassium bicarbonate supplements during head-down-tilt bed rest: presentation of a multidisciplinary randomized controlled trial (MEP study).
   *Acta Astronaut* 95: 82-91, http://dx.doi.org/10.1016/j.actaastro.2013.11.001, 2013 IF<sub>2012</sub>: 0.701

2. Flint A, Kapitza C, Zdravkovic M
   *Diabetes Obes Metab* 15(10): 958-962, 2013 IF<sub>2012</sub>: 5.181

   Sclerostin and DKK1 levels during 14 and 21 days of bed rest in healthy young men.

   Continuous blood glucose monitoring (cgm) system based on intravenous microdialysis and glucose sensing.

   Safety, tolerability, pharmacokinetics, and pharmacodynamics of multiple rising doses of empagliflozin in patients with type 2 diabetes mellitus.
   *Diabetes Ther* 4(2): 331-345, 2013 IF<sub>2012</sub>: -

   Safety, tolerability, pharmacokinetics and pharmacodynamics following 4 weeks’ treatment with empagliflozin once daily in patients with type 2 diabetes.
   *Diabetes Obes Metab* 15(7): 613-621, 2013 IF<sub>2012</sub>: 5.181
Osmotic regulation of hepatic betaine metabolism. 
*Am J Physiol Gastrointest Liver Physiol* 304(9): G835-G846, 2013 IF<sub>2012</sub>: 3.649

Pharmacodynamic characteristics of lixisenatide once daily vs liraglutide once daily in patients with type 2 diabetes insufficiently controlled on metformin.
*Diabetes Obes Metab* 15(7): 642-649, 2013 IF<sub>2012</sub>: 5.181

O-GlcNAcylation as a novel ammonia-induced posttranslational protein modification in cultured rat astrocytes. 

The systemic immune network in recent onset type 1 diabetes: central role of interleukin-1 receptor antagonist (DIATOR Trial).
*PLOS ONE* 8(8): 1-7, e72440, 2013 IF<sub>2012</sub>: 3.730

11. Lane HW, Bourland C, Barrett A, Heer M, Smith SM
The role of nutritional research in the success of human space flight.

A novel insulin combination of insulin degludec and insulin aspart achieves a more stable overnight glucose profile than insulin glargine: results from continuous glucose monitoring in a proof-of-concept trial.
*J Diabetes Sci Technol*: 7(5):1328-1336, 2013 IF<sub>2012</sub>: -

Accuracy and reliability of continuous glucose monitoring systems: a head-to-head comparison.

14. Luijf YM, Arnolds S, Avogaro A, Benesch C, Bruttomesso D, Farret A, Heinemann L, Place J, Renard E, Scotton R, Devries JH on behalf of the AP@home consortium
Patch pump versus conventional pump: postprandial glycemic excursions and the influence of wear time.
*Diabetes Technol Ther* 15(7): 575-579, 2013 IF<sub>2012</sub>: 2.205
Day and night closed-loop control in adults with type 1 diabetes mellitus: A comparison of two closed-loop algorithms driving continuous subcutaneous insulin infusion versus patient self-management.
Diabetes Care 36(12): 3882-3887, 2013 IF2012: 7.735

Performance of blood glucose meters in compliance with current and future clinical ISO15197 accuracy criteria.

17. Pfützner A, Schipper C, Ramljak S, Flacke F, Sieber J, Forst T, Musholt PB
Evaluation of the effects of insufficient blood volume samples on the performance of blood glucose self-test meters.

Blood glucose meters employing dynamic electrochemistry are stable against hematocrit interference in a laboratory setting.

Blood glucose meters employing dynamic electrochemistry are stable against hematocrit interference in a laboratory setting.

The Precision study: examining the inter- and intra-assay variability of replicate measurements of BGStar, iBGStar and 12 other blood glucose monitors.
Expert Opin Med Diagn 7(6): 511-516, 2013 IF2012: -

Blunted refeeding response and increased locomotor activity in mice lacking FoxO1 in synapsin-cre-expressing neurons.
Effects of different levels of physical inactivity on plasma visfatin in healthy normal-weight men.

23. Sinha VP, Howey DC, Choi SL, Mace KF, Heise T
Steady-state pharmacokinetics and glucodynamics of the novel, long-acting basal insulin LY2605541 dosed once-daily in patients with type 2 diabetes mellitus.

24. Stirban A
Noninvasive skin fluorescence spectroscopy for diabetes screening.
*J Diabetes Sci Technol* 7(4): 1001-1004, 2013 IF$_{2012}$: -

Variability of skin autofluorescence measurement over 6 and 12 weeks and the influence of benfotiamine treatment.
*Diabetes Technol Ther* 15(9): 733-737, 2013 IF$_{2012}$: 2.205
Reviews

1. **Arnolds S, Heise T, Flacke F, Sieber J**
   Common standards of basal insulin titration in type 2 diabetes.
   *J Diabetes Sci Technol* 7(3): 771-788, 2013 IF<sub>2012</sub>: -

2. **Forst T, Pfützner A**
   Pharmacological profile, efficacy and safety of lixisenatide in type 2 diabetes mellitus.
   *Expert Opin Pharmacother* 14(16): 2281-2296, 2013 IF<sub>2012</sub>: 2.860

3. **Frier BM, Russell-Jones D, Heise T**
   *Diabetes Obes Metab* 15(11): 978-986, 2013 IF<sub>2012</sub>: 5.181

4. **Görg B, Schliess F, Häussinger D**
   Osmotic and oxidative/nitrosative stress in ammonia toxicity and hepatic encephalopathy.

5. **Heise T, Meneghini LF**
   Insulin stacking vs. therapeutic accumulation: understanding the differences.

6. **Lane HW, Bourland C, Barrett A, Heer M, Smith SM**
   The role of nutritional research in the success of human space flight.

7. **Stirban A, Heinemann L**
   Messung der Autofluoreszenz der Haut.
   *Diabetes, Stoffwechsel und Herz* 22: 225-236, 2013 IF<sub>2012</sub>: 0.175

8. **Stirban A, Gawlowski T, Roden M**
   Vascular effects of advanced glycation endproducts: Clinical effects and molecular mechanisms.
   *Mol Metab*: dx.doi.org/10.1016/j.molmet.2013.11.006, 2013 IF<sub>2012</sub>: -

   Current options and perspectives in the treatment of diabetic neuropathy.
   *Curr Pharm Des* 19(27): 4981-5007, IF<sub>2012</sub>: 3.311
10. Vora J, Heise T
Variability of glucose-lowering effect as a limiting factor in optimizing basal insulin therapy.
Diabetes Obes Metab 15(8): 701-712, 2013 IF$_{2012}$: 5.181
Short Reports

1. Stirban A, Pop A, Tschoepe D
   A randomized, double-blind, cross-over, placebo-controlled trial to investigate the effects of a 6 weeks benfotiamine treatment on postprandial vascular function and variables of autonomic nerve function in type 2 diabetes mellitus.
   **Diabet Med** 30(10): 1204-1208, 2013 IF$_{2012}$: 3.241
Letters / Comments

1. **Jax T**
   It may be premature to conclude a class effect of DPP-4 inhibitors on attenuating endothelial function measured by flow-mediated vasodilation.
   eLetter referring to *Dipeptidyl peptidase−4 inhibitors attenuate endothelial function as evaluated by flow−mediated vasodilatation in type 2 diabetic patients* by Ayaori et al.  
   **JAHA** 2:e003277, doi: 10.1161/JAHA.112.003277, 2013 IF<sub>2012</sub>: -

2. **Stirban A, Tschoepe D**
   Comment on *Advanced glycation endproducts in food and their effects on health* by Poulsen et al. in Food Chem Toxicol 60: 10-37, 2013
   **Food Chem Toxicol**: S0278-6915(13)00815-6 [pii];10.1016/j.fct.2013.12.001 [doi], 2013 IF<sub>2012</sub>: 3.010
Book Chapters

1. Heise T
   Technische Aspekte der Blutzuckerselbstmessung.
   In: Meier JJ, Nauck MA, editors. Kursbuch Klinische Diabetologie. Mainz, Kirchheim-Verlag; 2013
Scientific Congress Presentations

Oral Presentations


1. Luijf YM, DeVries JH, Mader JK, Doll W, Place J, Renard E, Bruttomesso D, Avogaro A, Benesch C, Heinemann L on behalf of the AP@home Consortium
   Accuracy and reliability of current CGM systems; a direct comparison. *Diabetes Technol Ther* 15(S1): A-13, O-38, ATTD 2013 yearbook

4th FDA/JDRF/NIH Workshop on Innovation towards an Artificial Pancreas, Bethesda, MD, USA, 9th – 10th Apr, 2013

1. Heinemann L on behalf of the AP@home consortium
   Lessons learned from clinical studies on the way to daily life usage.
   4th FDA/JDRF/NIH Artificial Pancreas Meeting, 2013


1. Heinemann L
   DDG Hauptprogramm (ePaper): 85, 2013

2. Heise T
   Pharmakokinetische Besonderheiten im Kindes- und Jugendalter. AG Pädiatrische Diabetologie der DDG.
   DDG Hauptprogramm (ePaper): 82, 2013

   Assoziation zwischen Immunmediatoren und metabolischen Parametern bei Typ 1 Diabetes: zentrale Rolle von Interleukin 1 Rezeptorantagonist.
   *Diabetologie & Stoffwechsel* 8(S01): FV73, 48. DDG, 2013
American Diabetes Association´s 73th Scientific Sessions, Chicago, IL, USA, 21st – 25th June, 2013

   New insulin glargine U300 formulation evens and prolongs steady state PK and PD profiles during euglycemic clamp in patients with type 1 diabetes (T1DM).
   *Diabetes* 62(S1): A29, 113–OR, 2013

34th Annual International Gravitational Physiology Meeting, Toyohashi, Japan, 23rd – 26th June, 2013

1. Heer M
   Space exploration: What are the nutritional requirements?
   34th ISGP Meeting, 2013

   Bone turnover in long-term space flight simulation (MARS500).
   34th ISGP Meeting, 2013

19th IAA Humans in Space Symposium, Köln, Germany 7th – 12th July, 2013

1. Heer M, Baecker N, Frings-Meuthen P
   High dietary NaCl– and protein intake: effects on bone turnover.
   HIS Symposium, 2013

35th ESPEN Congress on Clinical Nutrition & Metabolism, Leipzig, Germany 31st August - 3rd September, 2013

   Effects of potassiumbicarbonate on bone resorption during high protein in bed rest (MEP Study).
   *Clin Nutr* 32(S1): S9, OP022, 2013

1st National Conference in Diabetic Neuropathy and Diabetic Foot with International Participation, Bucharest, Romania 17th – 20th October, 2013

1. Stirban A
   From diabetic neuropathy to microvascular changes and back.
   1st Neurodiab Conference, 2013

1. Stirban A
   Sensomotorische Neuropathie.
   DDG Symposium: Diabetologie trifft Neurologie I
   7. DDG Herbsttagung, 2013

2. Stirban A
   Endotheliale Dysfunktion bei Diabetes mellitus.
   DDG Symposium: Diabetologie trifft Angiologie I
   7. DDG Herbsttagung, 2013

66th Annual Scientific Meeting of the Gerontological Society of America, New Orleans, MD, USA, 20th – 24th November, 2013

1. Heer M, Ferrucci L
   Physiological adaptation to bed rest and ability to recover: a model of resiliency in aging.
   GSA Annual Scientific Meeting, 2013

2. Heer M
   Is bone turnover in bed rest, and strategies used to mitigate it valid for aging processes?
   GSA Annual Scientific Meeting, 2013

International Diabetes Federation, World Diabetes Congress 2013, Melbourne, Australia, 2nd - 6th December, 2013

   Rates of confirmed hypoglycaemia in type 1 and type 2 diabetes are correlated with within-subject variability in fasting blood glucose.
   IDF 2013, OP-0068, 2013
Poster Presentations


   Pharmacokinetics and feasibility of insulin lispro microneedle-based intradermal (ID) infusion.
   Diabetes Technol Ther 15(S1): A-85, P-164, ATTD 2013 yearbook

   Continuous blood glucose monitoring system using intravenous microdialysis and glucose sensing.
   Diabetes Technol Ther 15(S1): A-72, P-128, ATTD 2013 yearbook


1. Heise T, Nosek L, Coester HV, Roepstorff C, Segal S, Lassota N
   Steady state is reached within two to three days of once-daily administration of ultra-long-acting insulin degludec.
   Diabet Med 30(S1): 73, P146, 2013

119th Kongress der Deutschen Gesellschaft für Innere Medizin e.V., Wiesbaden, Germany, 6th - 9th April, 2013

   Multihexamerbildung: neuartiger Verzögerungsmechanismus als Grundlage für die lange blutzuckersenkende Wirkung von Insulin degludec.
   Der Internist 54(S1): 16, P-015, 2013

   Systematic evaluation of the influence of hyperglycemia on diastolic myocardial function.
   Der Internist 54(S1): 82, P-168, 2013

Experimental Biology, Boston, MA, USA, 20th – 24th April, 2013

   KHCO₃ prevents increase in bone resorption with high protein in bed rest (MEP Study).
   FASEB J 27: 615.15, 2013
American Association of Clinical Endocrinologists (AACE) 22nd Annual Scientific and Clinical Congress, Phoenix, AZ, USA, 1st – 5th May, 2013

Higher rates of confirmed hypoglycemia are associated with greater within-subject variation in fasting plasma glucose in patients with type 1 or type 2 diabetes: a meta-analysis.
Abstract 1104, 22nd AACE 2013

American Diabetes Association´s 73rd Scientific Sessions, Chicago, IL, USA, 21st – 25th June, 2013

IDegAsp shows distinct prandial and basal glucose-lowering effects at steady state in subjects with type 1 diabetes.
Diabetes 62(S1): A235, 926–P, 2013

IDegAsp produces dose-proportional glucose-lowering effect in subjects with type 1 diabetes.

A euglycemic clamp pilot study assessing the effects of the glucagon receptor antagonist LY2409021 on 24-hour insulin requirement in patients with T1DM.
Diabetes 62(S1): LB18, 64–LB, 2013

Metabolic effects and safety of two selective 11β-HSD1 inhibitors (RO5093151 (RO151) and RO5027838 (RO838) in metformin-treated patients with type 2 diabetes (T2DM).
Diabetes 62(S1): A293, 1128–P, 2013

The dipeptidyl peptidase (DPP)-4 inhibitor linagliptin improves β-cell function and postprandial glucose in type 2 diabetes (T2DM).
Diabetes 62(S1): A296, 1138–P, 2013

Effect of canagliflozin (CANA) 300 mg on C-peptide clearance (CLCpep).
7. Tillner J, Bergmann K, Teichert L, Dahmen R, Heise T, Becker RHA
   Euglycemic clamp profile of new insulin glargine U300 formulation in patients with
   type 1 diabetes (T1DM) is different from glargine U100.
   *Diabetes* 62(S1): A234, 920–P, 2013

8. Topp BG, Geiser JS, Soon DKW, Heise T, Michael MD, Jacober SJ, Beals JM, Sinha VP
   Effects of a novel basal insulin, LY2605541, on hepatic glucose output and muscle glucose
   uptake: a physiology based simulation analysis.
   *Diabetes* 62(S1): A231, 913–P, 2013

19\textsuperscript{th} IAA Humans in Space Symposium, Köln, Germany 7\textsuperscript{th} – 12\textsuperscript{th} July, 2013

   Response of biomarkers of cartilage metabolism to immobilisation during 21-days of
   HDT-bed rest.
   HIS Symposium, 2013

   Baecker N, Chernogorov N, Vassilieva G, Morukov B, Rittweger J, Gerzer R
   MARS520: Ambulatory blood pressure monitoring during long-term confinement.
   HIS Symposium, 2013

49\textsuperscript{th} Annual Meeting of the European Association for the Study of Diabetes (EASD), Barcelona,
Spain, 23\textsuperscript{rd} – 27\textsuperscript{th} September, 2013

   Higher rates of confirmed hypoglycaemia are associated with greater within-subject variability
   in fasting blood glucose in type 1 and type 2 diabetes: a meta-analysis.
   *Diabetologia* 56(S1): S423, A1052, 2013

2. Ferrannini E, Muscelli E, Frascerra S, Baldi S, Mari A, Heise T, Broedl UC, Woele HJ
   Metabolic response to sodium-glucose transporter 2 (SGLT2) inhibition with empagliflozin in
   patients with type 2 diabetes.
   *Diabetologia* 56(S1): S372, A932, 2013

   Ramsauer M, Morrow L
   Metabolic effects and safety of two selective 11β-HSD1 inhibitors (RO5093151 (RO151) and
   RO5027838 (RO838)) in metformin-treated patients with type 2 diabetes.
   *Diabetologia* 56(S1): S407, A1015, 2013
IDegAsp shows distinct prandial and basal glucose-lowering effects at steady state in subjects with type 1 diabetes.
*Diabetologia* 56(S1): S418, A1040, 2013

New insulin glargine formulation has a flat and prolonged steady state profile in subjects with type 1 diabetes.
*Diabetologia* 56(S1): S414, A1029, 2013

A euglycaemic clamp pilot study assessing the effects of the glucagon receptor antagonist LY2409021 on 24-hour insulin requirement in patients with type 1 diabetes mellitus.
*Diabetologia* 56(S1): S235, A576, 2013

IDegAsp produces a dose-proportional glucose-lowering effect in subjects with type 1 diabetes.
*Diabetologia* 56(S1): S418, A1041, 2013

8. Smulders RA, Leeflang S, Schliess F, Jax T, Kurosaki E, Kadokura T
The effect of ipragliflozin on the total glucose turnover after OGTT in healthy subjects and patients with type 2 diabetes mellitus.
*Diabetologia* 56(S1): S399, A997, 2013

Euglycaemic single dose clamp profile of new insulin glargine formulation in subjects with type 1 diabetes is flat and prolonged.
*Diabetologia* 56(S1): S415, A1033, 2013

16th Annual CDA/CSEM Professional Conference and Annual Meeting, Montreal, QC, Canada
17th – 20th October, 2013

Higher rates of confirmed hypoglycemia are associated with greater within-subject variation in fasting blood glucose in patients with type 1 and type 2 diabetes: a meta-analysis.
*Can J Diabetes* 37(S4): S52-S53, 2013

13th Diabetes Technology Meeting, San Francisco, CA, USA, 31st October – 2nd November, 2013

1. Benesch C, Haensler J, Heise T
ClampArt, a novel device for automated glucose clamps, shows high clamp quality and utility.
2. **Haensler J, Benesch C, Heise T**  
Improving clamp quality with ClampArt, a novel device for automated glucose clamps: More reliable blood glucose measurements through a new sensor technology.  

Impact of injection speed and volume on perceived pain during subcutaneous injections into the abdomen and tight.  

**International Diabetes Federation, World Diabetes Congress 2013, Melbourne, Australia, 2nd - 6th December, 2013**

1. **Heise T, Nosek L, Klein O, Hastrup H, Chenji S, Haahr H**  
Insulin degludec/insulin aspart has distinct prandial and basal glucose-lowering effects at steady state in subjects with type 1 diabetes.  
IDF 2013, PD-0745, 2013

Similar risk of exercise-related hypoglycaemia for insulin degludec compared to insulin glargine in patients with type 1 diabetes.  
IDF 2013, PD-0791, 2013

Pharmacodynamic profiles of lixisenatide vs. liraglutide in patients with type 2 diabetes mellitus on metformin.  
IDF 2013, P-1066, 2013

4. **Heise T, Nosek L, Coester HV, Klein O, Roepstorff C, Svendsen AL, Haahr H**  
Insulin degludec/insulin aspart produces a dose-proportional glucose-lowering effect in subjects with type 1 diabetes.  
IDF 2013, P-1400, 2013
Advanced Training Courses

Science Sessions

1. **Prof. Dr. med. Dan Ziegler**
   
   20th March 2013
   Diagnosis and treatment of diabetic neuropathy.
   Deutsches Diabetes Zentrum, Institut für Klinische Diabetologie, Düsseldorf, Germany

2. **Professor Dr. med. Sven Francque**
   
   17th April 2013
   NASH: current insights in pathophysiology and clinical relevance.
   Department of Gastroenterology and Hepatology, University Hospital Antwerp,
   Antwerp, Belgium

   **Dr. med. Kris Verburgh**
   
   17th April 2013
   On type 2 diabetes, nutrition and aging.
   Medical doctor, author and researcher, Antwerp, Belgium

3. **Dr. Roman Hovorka**
   
   13th May 2013
   The artificial pancreas – where we are and where we are going.
   University of Cambridge, Metabolic Research Laboratories, Institute of Metabolic Science,
   Cambridge, UK

4. **Priv.-Doz. Dr. Leona Plum-Mörschel**
   
   22nd May 2013
   Bedeutung der Signaltransduktion über die Insulinrezeptor-Signalkaskade in hypothalamischen
   Neuronen für die Energiehomöostase.
   Director Obesity & Prediabetes, Profil, Neuss, Germany

5. **Prof. Dr. Paul Enck**
   
   12th June 2013
   The placebo response to medicine: minimize, maximize or personalize?
   Eberhard-Karls Universität Tübingen, Universitätsklinikum, Abteilung für psychosomatische
   Medizin und Psychotherapie
6. Prof. Dr. Richard L. Hughson

11th July 2013
Spaceflight causes aging-like changes in the cardiovascular system.
Chair in Vascular Aging and Brain Health, Schlegel-University of Waterloo, Research Institute for Aging, Faculty of Applied Health Sciences University of Waterloo, Waterloo, ON, Canada
Trainings with External Participants

1. **Methoden in der experimentellen Ernährungsforschung**
   
   2nd – 8th January 2013  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Masterstudiengang Humanernährung  
   Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

2. **Nutrition in Space**
   
   5th March 2013  
   Masterstudiengang ’Space physiology and health’  
   Kings College, London, UK  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany

3. **Profil – Glucose-Clamp-Technique Introduction Course**
   
   17th April 2013  
   Thomas Andersen, Marius Gangal, Ditte Bretler, Marius Gangal, Rahul Kapur,  
   Stanislava Macura, Marcus Niemeyer, Kristine Steensen Sølje  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Novo Nordisk Bagsvaerd, Denmark

4. **Prime – Patients and Research interconnecting Medicine**
   
   18th – 30th April 2013  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Society for Diabetic Neuropathy, Romania  
   Wörwag Pharma GmbH&Co.KG, Romania

5. **Methoden in der experimentellen Ernährungsforschung**
   
   13th – 19th June 2013  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Masterstudiengang Humanernährung  
   Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

6. **Profil – Glucose Clamp Training**
   
   14th November 2013  
   Juliane Albert, Stephan Assmann, Robert Boesch, Karen Bruckmann, Fabienne Caillon,  
   Jutta Degner, Madlen Exner, Lisa Naughton  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Early Clinical Development, Covance, UK
7. **DuET 2013 Düsseldorf Education on Trials**

   26\textsuperscript{th} – 27\textsuperscript{th} November 2013  
   Profil Institut für Stoffwechselforschung GmbH Neuss, Germany  
   Novo Nordisk, Region Europe A/S
Granted Research Projects

1. **AP@Home – Bringing the Artificial Pancreas Home**
   EU Project 7th Framework Programme, contract no. 247138
   European Project to Develop Artificial Pancreas for Diabetes Patients
   February 2010 – October 2014
   (further information: http://www.apathome.eu/)

2. **SPIDIMAN – Single-Port Insulin Infusion for Improved Diabetes Management**
   EU Project 7th Framework Programme, contract no. 305343
   European Project to Combine Glucose Monitoring and Insulin Infusion in a Single Needle
   November 2012 – December 2016
   (further information: http://www.spidiman.eu/)

3. **MICROLOOP – Closed-loop glucose control in the hospital**
   BMBF SME-innovation: Medical Technology Funding Programme, MED-327-060
   German Project to Develop a Medical Device for Glucose Control in the Hospital
   October 2012 – September 2015

4. **PCBIAB – Portable bihormonal artificial pancreas**
   EU Project 7th Framework Programme, contract no. 305654
   European Project to bring a portable bihormonal artificial pancreas to the patients’ home
   September 2012 – August 2015
   (further information: http://PCBIAB.eu/project)

5. **Untersuchung zum Knochenstoffwechsel**
   anhand von ISS Experimenten, ESA Bed Rest Experimenten, und MARS500 Experimenten
   Rheinische Friedrich-Wilhelms-Universität Bonn
   BMWi, Projektträger Raumfahrt
   October 2009 – June 2013

6. **Untersuchungen zur Auswirkung der Nährstoffzusammensetzung/-Supplementation auf den Knochen- und Kohlenhydratstoffwechsel**
   anhand folgender Einzel-Projekte Toulouse-MTBR-Bettruhe-Experimente PROPEI und Bone Quality, Antarktisstation Concordia Projekt MONU, ISS-Experiment Pro K
   Rheinische Friedrich-Wilhelms-Universität Bonn,
   BMWi, Projektträger Raumfahrt
   March 2012 – June 2015
Awards & Appointments

1. **Sabine Arnolds**
   Member of the Editorial Board of Diabetes, Obesity and Metabolism

2. **Martina Heer**
   Appointed as President of the International Society for Gravitational Physiology

3. **Lutz Heinemann**
   Project Promotion Award of the German Diabetes Association for Gestational Diabetes (DDG)

4. **Thomas Jax**
   Finalist for the ‘Best Poster award’ at the 119th Kongress der Deutschen Gesellschaft für Innere Medizin e.V., Wiesbaden, Germany, 2013

5. **Leona Plum-Mörschel**
   Habilitation (venia legendi) for the subject Nutritional Sciences at Friedrich-Schiller-University Jena, Germany