

Clemens Fürnsinn

Adjunct Investigator

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SCIENTIFIC & ACADEMIC CAREER

Since 2000	Associate Professor for Metabolic Physiology
1997	Habilitation in Metabolic Physiology
Since 1994	University Assistant at the Division of Endocrinology & Metabolism, Department of Medicine III, Medical University of Vienna
1993 – 1994	Visiting scientist at the Department of Biochemistry of the University of Oxford, England, UK
1990 – 1993	University Assistant at the Division of Endocrinology & Diabetes Mellitus, 1st Medical Department, University of Vienna
1990	Ph.D.
1986 – 1989	Doctoral student at the Division of Endocrinology & Diabetes Mellitus, 1st Medical Department, University of Vienna
1985	Visiting researcher at the Department of Animal Physiology, University of Groningen, the Netherlands
1982 – 1987	Study of Biology (Zoology/Botany), University of Vienna

MAIN AREA OF RESEARCH

Continuous preclinical research with laboratory rodents and *in vitro*-techniques about metabolic and pharmacological topics related to blood glucose homeostasis, insulin sensitivity, and obesity. During the earlier part of career, focus on insulin-like and insulin-sensitizing actions of endogenous peptides (e.g., amylin, GLP-1), trace elements (e.g., vanadium, lithium), and drugs (PPAR agonists, metformin). Approximately from 2005-2012, taking part in the enterprise of a start-up company aiming at the discovery and development of novel anti-diabetic compounds. Since 2012 basic research topics related to the physiological and pharmacological modulation of fuel metabolism, insulin secretion, and body weight. Particular interest in the metabolic adaptations to life under hypoxia, as well as in the humoral regulation of fuel metabolism by erythropoietin and leptin. Furthermore, studies on the mechanisms of drug actions on metabolism and body weight, with interest in metformin, statins, and adrenergic α 2a-antagonists.

PREVIOUS LEADERSHIP EXPERIENCE & ADDITIONAL RESEARCH ACTIVITIES (10 most important)

- Coordinator of the thematic programs “Clinical Endocrinology, Metabolism and Nutrition” and “Endocrinology and Metabolism” of the doctoral programs of Applied Medical Science and Doctor of Philosophy at the Medical University of Vienna (since 2012)
- Editorial board member *Diabetologia* (1998-2016), *PlosONE* (2016-2022), *Frontiers in Endocrinology* (2022-2023), and other

- Grant Reviewer for Agence Nationale de la Recherche, France; Medical Research Council UK; Wellcome Trust UK; South African Medical Research Council; German Research Fund; Swedish Research Fund; Dutch Science Fund; and other
- Reviewer for >60 journals: Diabetes, Diabetologia, Science Translational Medicine, and other
- Inventor of novel compounds on 4 patents
- Projects funded by the Austrian Science Fund (FWF)
- Projects funded by the Austrian Research Promotion Agency (FFG)
- Projects funded by pharmaceutical companies; e.g., Johnson & Johnson, Sankyo, Boehringer Mannheim, 55pharma, and other
- Invited speaker at the European Association for the Study of Diabetes (EASD), British Pharmacology Society (BPS), Society for the Study of Ingestive Behaviour (SSIB), and other
- Scientific award of the HOECHST-Company (1992)

10 MOST IMPORTANT PUBLICATIONS

1. Scherer T, Metz M, Beghini M, Bilban M, Gensthaller L, Luca AC, Kaplanian M, Abu Eid S, Koldyka O, Hackl MT, Dürr S, Rivelles E, Schönecker SS, Kaya A, Chami R, Nusko L, Tschare C, Ablaza K, Höbler A-L, Klimek P, Leutner M, Yamamoto M, Suzuki N, Stemmer K, Zeyda M, Steinacher D, Nics L, Müller AMS, Helbich TH, Moriggl R, Kautzky-Willer A, Windberger U, Prager G, Fürnsinn C: A direct effect of the hematocrit on blood glucose: Evidence from hypoxia- and erythropoietin-treated mice. *Science Advances* 11: eadt7366, 2025
2. Beghini M, Metz M, Baumgartner C, Wolf P, Bastian M, Hackl M, Baumgartner-Parzer S, Marculescu R, Krebs M, Harreiter J, Brandt S, Miehle K, Ceccarini G, Magno S; Pelosini C, Tran C, Gambineri A, Cecchetti C, Gard L-I, Risti R, Lökene A, Krššák M, Pflieger L, Trauner M, Kautzky-Willer A, Stumvoll M, Wabitsch M, Santini F, Turan I, Akinci B, Frommlet F, Stangl H, Fürnsinn C, Scherer T: Leptin increases hepatic triglyceride secretion in patients with lipodystrophy. *Metabolism*, 169: 156261, 2025
3. Leutner M, Butylina M, Matzhold C, Klimek P, Cuhaj C, Bellach L, Baumgartner-Parzer S, Reiter B, Preindl K, Kautzky A, Stimpfl T, Thurner S, Pietschmann P, Fürnsinn C, Kautzky-Willer A: Simvastatin therapy in higher dosages deteriorates bone quality: consistent evidence from population-wide patient data and interventional mouse studies. *Biomedicine & Pharmacotherapy* 158: 114089, 2023
4. Metz M, Beghini M, Wolf P, Pflieger L, Hackl M, Bastian M, Freudenthaler A, Harreiter J, Zeyda M, Baumgartner-Parzer S, Marculescu R, Marella N, Hannich JT, Györi G, Berlakovich G, Roden M, Krebs M, Risti R, Lökene A, Trauner M, Kautzky-Willer A, Krššák M, Stangl H, Fürnsinn C, Scherer T: Leptin increases hepatic triglyceride export via a vagal mechanism in humans. *Cell Metabolism* 34: 1719-1731.e5., 2022
5. Kaplanian M, Philippe C, Abu Eid S, Hackl MT, Metz M, Beghini M, Luca AC, Kautzky-Willer A, Scherer T, Fürnsinn C: Deciphering metformin action in obese mice: a critical re-evaluation of established protocols. *Metabolism* 128: 154956, 2022
6. Hackl MT, Fürnsinn C, Schuh CM, Krssak M, Carli F, Guerra S, Freudenthaler A, Baumgartner-Parzer S, Helbich TH, Luger A, Zeyda M, Gastaldelli A, Buettner C, Scherer T: Brain leptin reduces liver lipids by increasing hepatic triglyceride secretion and lowering lipogenesis. *Nature Communications* 10: 2717, 2019
7. Lehner Z, Stadlbauer K, Adorjan I, Rustenbeck I, Belz M, Fenzl A, de Cillia VAM, Gruber D, Bauer L, Frobel K, Brunmair B, Luger A, Fürnsinn C: Mechanisms of antihyperglycaemic action of efaroxan in mice: Time for reappraisal of α 2A-adrenergic antagonists in the treatment of type 2 diabetes? *Diabetologia* 55: 3071-3082, 2012
8. Brunmair B, Staniek K, Dörig J, Szöcs Z, Stadlbauer K, Marian V, Gras F, Anderwald C, Nohl H, Waldhäusl W, Fürnsinn C: Activation of PPAR- δ in isolated rat skeletal muscle switches fuel preference from glucose to fatty acids. *Diabetologia* 49: 2713-2722, 2006

9. Brunmair B, Staniek K, Gras F, Scharf N, Althaym A, Clara R, Roden M, Gnaiger E, Nohl H, Waldhäusl W, Fürnsinn C: Thiazolidinediones, like metformin, inhibit respiratory complex I: A common mechanism contributing to their antidiabetic actions? *Diabetes* 53: 1052-1059, 2004
10. Fürnsinn C, Komjati M, Madsen OD, Schneider B, Waldhäusl W: Lifelong sequential changes in glucose tolerance and insulin secretion in genetically obese Zucker rats (fa/fa) fed a diabetogenic diet. *Endocrinology* 128: 1093-1099, 1991