BIOGRAPHICAL SKETCH

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NAME: Matthias von Herrath, MD

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Vice President, Novo Nordisk Research Center Seattle - Professor/Director Type 1 Diabetes Center, La Jolla Institute for Allergy and Immunology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Freiburg Medical School, Freiburg, Germany	M.D.	08/88	Medicine
Freiburg Medical School, Freiburg, Germany (PhD equivalent)	Thesis	10/82-05/88	Biochemistry (summa cum laude)
Freiburg Medical Center, Freiburg, Germany	N/A	05/88-05/89	Medicine/Immunology
Diakonie Hospital, Freiburg, Germany	N/A	05/89-02/91	Intensive Care Residency
Scripps Research Institute, La Jolla, CA	Postdoctoral	02/91-06/95	Virology

NOTE: The Biographical Sketch may not exceed five pages. Follow instructions below.

A. Personal Statement

I am strongly committed to clinical translation of immune-based interventions in autoimmune and metabolic diseases, the latter in particular being an exciting emerging field. My expertise and main strength is working at the interface of experimental research and clinical translation into proof of concept trials. This comprises understanding the human pathology of type 1 diabetes, understanding pathogenesis of autoimmunity in animal models as well as translation from various animal models to human interventions. In the translational area, we are very active in defining new combination therapies to intervene in type 1 diabetes and in developing immune and metabolic biomarkers that can help us to stratify patients.

B. Positions and Honors

Positions and Employment

1995-96 Sr. Res. Associate, Dept. of Neuropharmacology, Scripps Research Institute, La Jolla, CA
1996-99 Assistant Professor, Dept. of Neuropharmacology, Scripps Research Institute, La Jolla, CA
1999-2001 Associate Professor, Dept. of Neuropharmarmacology, Scripps Research Institute, La Jolla
2001 Adjunct Associate Professor, Dept. of Molecular and Experimental Medicine, Scripps Research Institute, La Jolla, CA
2001-05 Associate Member with Tenure, La Jolla Institute of Allergy and Immunology, La Jolla, CA
2004-Present Adjunct Professor, Dept. of Pediatrics, University of California, San Diego, CA
2005 Associate Professor, La Jolla Institute for Allergy and Immunology, La Jolla, CA
2008- Present Professor and Director for Type 1 Diabetes Research Center, LIAI, La Jolla, CA
2010-2012 President, IDS, Immunology of Diabetes Society
2011- Present President, CIS, Clinical Immunology Society
2011- Present Treasurer, FOCIS
2012- Present Vice President, Novo Nordisk Research Center Seattle, Novo Nordisk, Inc.

Other Experience and Professional Memberships

FOCIS Steering Committee & Treasurer (2011-2014)
International Diabetes Society – **President**
American Soc. for Clinical Investigation
Clinical Immunology Society – **President 2011-2012**

American Society for Microbiology
American Society of Immunology
American Diabetes Association, Research Policy Committee
Juvenile Diabetes Foundation International
American Association of Immunologists
American Society of Virology

World Affairs Council, San Diego
Deutsche Gesellschaft Für Immunologie

Fellowships and Honors

1986	DAAD Fellowship - Gene Technology
1991-1993	DFG Postdoctoral Fellowship
1993-1995	Juvenile Diabetes Foundation Fellowship Award
1996-2000	Juvenile Diabetes Foundation Career Development Award
2001	George Köhler Award, German Society of Immunology
2006	Grotzky Award, Juvenile Diabetes Foundation International
2007-2012	Scholar Award, Juvenile Diabetes Foundation
2008	American Diabetes Association – Outstanding Scientific Achievement Award
2014	Langerhans-Preis – German Diabetes Foundation
2014	Ranked as #1 Juvenile Diabetes Expert by 'Expertscape'

C. Contribution to Science

1. Understand the role of viruses in type 1 diabetes pathogenesis (1991 - present):
   Key mechanisms defined are molecular mimicry, hit and run scenarios, induction of inflammatory cytokines and MHC molecules and the fact that viruses can also stop diabetes in experimental models.
   a. Schneider DA, **von Herrath, MG**. Potential viral pathogenic mechanism in human type 1 diabetes. Diabetologia, 2014 Oct;57(10):2009-18. PMCID PMC4153966
   b. Schneider DA, **von Herrath MG**. Viruses and type 1 diabetes: a dynamic labile equilibrium. Diabetes Manag (Lond). 2013 May;3(3):217-223. PMCID PMC3949992
   c. Coppieters KT, **von Herrath MG**. Antibody cross-reactivity and the viral aetiology of type 1 diabetes. J Pathol. 2013 May;230(1):1-3. PMID: 23389883

2. Induction of regulatory cells by antigenic vaccinations (1995-present):
   Key finding is that DNA vaccines expressing proinsulin and response modifiers can induce regulatory cells and stop diabetes. This is now being developed for clinical applications within Novo Nordisk. This also includes the development of the concept of combination therapies for diabetes, where we are leaders in their implementation.
   a. Baca Jones C, Pagni PP, Fousteri G, Sachithanantham S, Dave A, Rodriguez-Calvo T, Miller J, **von Herrath MG**. Regulatory T cells control diabetes without compromising acute anti-viral defense. Clin Immunol. 2014 Aug;153(2):298-307. PMID:24858581
   b. Pagni PP, Bresson D, Rodriguez-Calvo T, Bel Hani A, Manenkova Y, Amirian N, Blaszczak A, Faton S, Sachithanantham S, **von Herrath MG**. Combination therapy with an anti-IL-1B antibody and GAD65 DNA vaccine can reverse recent-onset diabetes in the RIP-GP mouse model. Diabetes. 2014 Jun;63(6)2015-25. PMCID: PMC40330110
   c. Ryden AK, Wesley JD, Coppieters KT, **von Herrath MG**. Non-antigenic and antigenic interventions in type 1 diabetes. Hum Vaccin Immunother. 2014;10(4):838-46. PMID:24165565
   d. Boettler T, Pagni PP, Jaffe R, Cheng Y, Zerhouni P, **von Herrath MG**. The clinical and immunological significance of GAD-specific auto-antibody and T cell responses in type 1 diabetes. J Autoimmun. 2013 Aug;44:40-8. PMID: 23770292

3. Live imaging of the mouse pancreas by 2-photon (2000 - present):
   We were the first to develop this technique in a living pancreas without detachment. Key findings are the random walk of autoreactive T cells within the pancreas and the observation of CTK killing venets.

a. Coppieters KT, Amirian N, von Herrath MG. Intravital imaging of CTLs killing islet cells in diabetic mice. J Clin Invest. 2012 Jan:122(1):119-31. PMCID PMC3248300

4. Unraveling the pathology of human diabetes (2007 - present):
   Key findings are the in situ staining for autoreactive CD8 cells in human pancreata and also the finding that the exocrine pancreas is affected during diabetes pathogenesis.
   a. Coppieters KT, Dotta F, Amirian N, Campbell PD, Kay TW, Atkinson MA, Roep BO, von Herrath MG. Demonstration if islet-autoreactive CD8 T cells in insulitic lesions from recent onset and long-term type 1 diabetes patients. J Exp Med. 2012 Jan 16;209(1):51-60. PMCID: PMC3260877
   b. Rodriguez-Calvo T, Ekwall O, Amirian N, Zapadiel-Gonzalo J, von Herrath MG. Increased immune cell infiltration of the exocrine pancreas: a possible contribution to the pathogenesis of type 1 diabetes. Diabetes. 2014 Nov;63(11):3880-90. PMCID: PMC4207385

Complete List of Published Work in MyBibliography:

http://www.ncbi.nlm.nih.gov/sites/myncbi/matthias.vonherrath.1/bibliography/43618246/public/?sort=date&direction=ascending