

DREHER Donatus Stefan, MD, PhD, FMH Respiratory Medicine

- 1. Professional positions**
 - 2. Clinical experience**
 - 3. Scientific research**
 - 4. Education track**
 - 5. Personal data**
 - 6. Publications**
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1. Professional positions

July 2011-present	Co-founder and Owner, TOTZKE & DREHER SCIENTIFIC SA Clinical Consulting and Medical Writing
January 2009-2011	Senior Medical Director, Clinical Group Head, Global Clinical Development Unit, Rheumatology - Autoimmune and Inflammatory Diseases, Merck Serono SA Geneva
March 2008-2009	Medical Director, Clinical Development, Autoimmune, Dermatology and Emerging Therapies, Merck Serono SA
October 2004-2008	Senior Manager, Clinical Research, Novartis Consumer Health SA, Nyon, Switzerland
October 2002-2004	Clinical Project Manager, Health Project Management (HPM) SA, Geneva, Switzerland
1999-2002	Senior Physician, Respiratory Medicine, University Hospital of Geneva
1995-1999	Resident Physician, Internal Medicine and Respiratory Medicine, University Hospital of Geneva
1992-1995	Postgraduate MD-PhD, University of Geneva

2. Clinical experience

- 3 years Director/Group Head Clinical Development, Merck Serono
- Clinical development of a new recombinant biological drug
 - Protocol and medical lead of international multicenter Phase I-II trials in osteoarthritis and cartilage injury
 - Clinical lead in IND submission
- 3 years Senior Manager in Clinical Research, Novartis
- Protocol and medical lead of US and EU multicenter Phase III trials in knee and hand osteoarthritis
 - Support of post-marketing regulatory and marketing activities
 - Clinical lead in NDA submission

- 2 years Clinical Project Manager, HPM
- CTDs, scientific overviews, and expert reports
 - Management of Phase IV trials in rheumatoid arthritis and hepatitis
 - Drug safety: PSURs, signal detection, causality assessment
- 5 years Senior physician / resident in Respiratory Medicine (HUG)
- 3 years Resident in Internal Medicine (University Hospital Geneva)
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3. Scientific research

Main investigator in Swiss National Foundation Priority project

- 10 peer-reviewed publications

PhD Thesis in Cell Physiology and Proteome Research

- 7 peer-reviewed publications

Participation in International Breast Cancer trial & other clinical trials

- 7 peer-reviewed publications

MD Thesis in Lung Physiology

- 1 peer-reviewed publication
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4. Education track

- 2005 Certification by European Center of Pharmaceutical Medicine (ECPM)
- 1999 Swiss Board Exam Specialist Respiratory Medicine (FMH)
- 1997 Swiss Board Exam Specialist Internal Medicine (FMH)
- 1995 PhD Thesis, Faculty of Biology, University of Geneva
- 1991 MD Thesis, Institute of Physiology, University of Zurich
- 1990 Federal Diploma in Medicine, University of Zurich
- 1989 Training in Biostatistics and Clinical Trials, Harvard School of Public Health, Boston
- 1982 Matura Mathematisch-Naturwissenschaftliches Gymnasium Zürcher Oberland, Switzerland
- 1974 Schiller Gymnasium, Frankfurt a/M, Germany
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5. Personal data

- Civil status Born in Amersham UK, December 6, 1962
British, Swiss, and French nationality
- Languages English, German, French: full proficiency
Spanish, Italian: limited proficiency
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6. Publications

I. Immunology & Respiratory medicine

- Kiama SG, Dreher D, Cochand L, Kok M, Obregon C, Nicod L, Gehr P. Host cell responses of Salmonella typhimurium infected human dendritic cells. *Immunol Cell Biol* 2006;84:475-81.
- Obregon C, Dreher D, Kok M, Cochand L, Kiama GS, Nicod LP. Human alveolar macrophages infected by virulent bacteria expressing SipB are a major source of active interleukin-18. *Infect Immun* 2003;71:4382-8.
- Tailleux L, Schwartz O, Herrmann JL, Pivert E, Jackson M, Amara A, Legres L, Dreher D, Nicod LP, Gluckman JC, Lagrange PH, Gicquel B, Neyrolles O. DC-SIGN is the major Mycobacterium tuberculosis receptor on human dendritic cells. *J Exp Med* 2003;197:121-7.
- Dreher D, Kok M, Obregon C, Kiama SG, Gehr P, Nicod LP. Salmonella virulence factor SipB induces activation and release of IL-18 in human dendritic cells. *J Leukocyte Biol* 2002;72:743-51.
- Erni C, Suard C, Freitas S, Dreher D, Merkle HP, Walter E. Evaluation of cationic solid lipid microparticles as synthetic carriers for the targeted delivery of macromolecules to phagocytic antigen-presenting cells. *Biomaterials* 2002;23:4667-76.
- Dreher D, Nicod LP. Dendritic cells in the mycobacterial granuloma are involved in acquired immunity. *Am J Respir Crit Care Med* 2002;165:1577-8.
- Walter E, Dreher D, Kok M, Thiele L, Kiama SG, Gehr P, Merkle HP. Hydrophilic poly(DL-lactide-co-glycolide) microspheres for the delivery of DNA to human-derived macrophages and dendritic cells. *J Control Release* 2001;76:149-68.
- Dreher D, Kok M, Cochand L, Kiama SG, Gehr P, Pechere JC, et al. Genetic background of attenuated Salmonella typhimurium has profound influence on infection and cytokine patterns in human dendritic cells. *J Leukoc Biol* 2001;69:583-9.
- Dreher D, Kok M, Pechere JC, Nicod LP. New strategies against an old plague: genetically engineered tuberculosis vaccines. *Schweiz Med Wochenschr* 2000;130:1925-9.
- Nicod LP, Cochand L, Dreher D. Antigen presentation in the lung: dendritic cells and macrophages. *Sarcoidosis Vasc Diffuse Lung Dis* 2000;17:246-55.
- Dreher D, Junod AF. Role of oxygen free radicals in cancer development. *Eur J Cancer* 1996;32A:30-8.
- Jacquier-Sarlin MR, Dreher D, Polla BS. Selective induction of the glucose-regulated protein grp78 in human monocytes by bacterial extracts (OM-85): a role for calcium as second messenger. *Biochem Biophys Res Commun* 1996;226:166-71.
- Dreher D, Vargas JR, Hochstrasser DF, Junod AF. Effects of oxidative stress and Ca²⁺ agonists on molecular chaperones in human umbilical vein endothelial cells. *Electrophoresis* 1995;16:1205-14.

- Dreher D, Jornot L, Junod AF. Effects of hypoxanthine-xanthine oxidase on Ca²⁺ stores and protein synthesis in human endothelial cells. *Circ Res* 1995;76:388-95.
- Dreher D, Junod AF. Differential effects of superoxide, hydrogen peroxide, and hydroxyl radical on intracellular calcium in human endothelial cells. *J Cell Physiol* 1995;162:147-53.
- Feraille E, Barlet-Bas C, Cheval L, Rousselot M, Carranza ML, Dreher D, Arystarkhova E, Doucet A, Favre H. Presence of two isoforms of Na, K-ATPase with different pharmacological and immunological properties in the rat kidney. *Pflugers Arch* 1995;430:205-12.
- Brandli O, Dreher D, Morger D. Results of short-term tuberculosis therapy with isoniazid, rifampicin and pyrazinamide *Schweiz Med Wochenschr* 1993 26;123:1300-06.
- Dreher D, Rochat T. Hyperoxia induces alkalization and dome formation in MDCK epithelial cells. *Am J Physiol* 1992;262:C358-64.
- Dreher D, Koller EA. Circadian rhythms of specific airway conductance and bronchial reactivity to histamine: the effects of parasympathetic blockade. *Eur Respir J* 1990;3:414-20.
- Schmid T, Dreher D, Karrer W. Oxygen saturation during sleep in chronic obstructive lung diseases before and after bronchodilator therapy. A controlled, prospective study in 36 patients. *Schweiz Med Wochenschr* 1988;118:1645-50.
- Brandli O, Langloh P, Plangger M, Dreher D. Course and prognosis of chronic obstructive lung disease over 5 and 10 years. *Schweiz Med Wochenschr* 1988;118:1314-20.
- Scherer O, Schwab R, Dreher D, Brandli O. Quality of life and time of survival following diagnosis of a bronchus carcinoma in 267 patients from 1977 to 1984. *Schweiz Med Wochenschr* 1987;117:1506-13.

II. Rheumatology & Other medical areas

- Lohmander LS, Hellot S, Dreher D, Krantz EF, Kruger DS, Guermazi A, Eckstein F: Intra-articular Sprifermin (Recombinant Human Fibroblast Growth Factor 18) in Knee Osteoarthritis: Randomized, Double-blind, Placebo-controlled Trial. *Arthritis Rheumatol* 2014;66:1820-1831.
- Cotofana S, Buck R, Dreher D, Wirth W, Roemer F, Duryea J, Nevitt M, Eckstein F; for the Osteoarthritis Initiative Investigators: Longitudinal (one-year) change in cartilage thickness in knees with early knee osteoarthritis: A within-person between-knee comparison-data from the OAI. *Arthritis Care Res* 2014;66:636-641.
- Cotofana S, Wyman BT, Benichou O, Dreher D, Nevitt M, Gardiner J, Wirth W, Hitzl W, Kwok CK, Eckstein F, Frobell RB; OAI Investigators Group. Relationship between knee pain and the presence, location, size and phenotype of femorotibial denuded areas of subchondral bone as visualized by MRI. *Osteoarthritis Cartilage* 2013;21:1214-22.

- Buck RJ, Wirth W, Dreher D, Nevitt M, Eckstein F. Frequency and spatial distribution of cartilage thickness change in knee osteoarthritis and its relation to clinical and radiographic covariates - data from the osteoarthritis initiative. *Osteoarthritis Cartilage* 2013;21:102-9.
- Haugen IK, Cotofana S, Englund M, Kvien TK, Dreher D, Nevitt M, Lane NE, Eckstein F. Hand joint space narrowing and osteophytes are associated with magnetic resonance imaging-defined knee cartilage thickness and radiographic knee osteoarthritis: Data from the Osteoarthritis Initiative. *J Rheumatol* 2012;39:161-6.
- Eckstein F, Cotofana S, Wirth W, Nevitt M, John MR, Dreher D, Frobell R; Osteoarthritis Initiative Investigators Group. Greater rates of cartilage loss in painful knees than in pain-free knees after adjustment for radiographic disease stage: data from the osteoarthritis initiative. *Arthritis Rheum* 2011;63:2257-67.
- Wirth W, Buck R, Nevitt M, Le Graverand MP, Benichou O, Dreher D, Davies RY, Lee JH, Picha K, Gimona A, Maschek S, Hudelmaier M, Eckstein F; OAI Investigators. MRI-based extended ordered values more efficiently differentiate cartilage loss in knees with and without joint space narrowing than region-specific approaches using MRI or radiography--data from the OA initiative. *Osteoarthritis Cartilage* 2011;19:689-99.
- Eckstein F, Nevitt M, Gimona A, Picha K, Lee JH, Davies RY, Dreher D, Benichou O, Le Graverand MP, Hudelmaier M, Maschek S, Wirth W; for the OA Initiative investigators Group. Rates of change and sensitivity to change in cartilage morphology in healthy knees and in knees with mild, moderate, and end stage radiographic osteoarthritis. *Arthritis Care Res* 2011;63:311-9.
- Frobell RB, Nevitt MC, Hudelmaier M, Wirth W, Wyman BT, Benichou O, Dreher D, Davies R, Lee JH, Baribaud F, Gimona A, Eckstein F; Osteoarthritis Initiative Investigators. Femorotibial subchondral bone area and regional cartilage thickness: a cross-sectional description in healthy reference cases and various radiographic stages of osteoarthritis in 1,003 knees from the Osteoarthritis Initiative. *Arthritis Care Res* 2010;62:1612-23.
- Frobell RB, Wirth W, Nevitt M, Wyman BT, Benichou O, Dreher D, Davies RY, Lee JH, Baribaud F, Gimona A, Hudelmaier M, Cotofana S, Eckstein F; OA Initiative investigators. Presence, location, type and size of denuded areas of subchondral bone in the knee as a function of radiographic stage of OA - data from the OA initiative. *Osteoarthritis Cartilage* 2010;18:668-76.
- Wirth W, Nevitt M, Hellio Le Graverand MP, Benichou O, Dreher D, Davies RY, Lee J, Picha K, Gimona A, Maschek S, Hudelmaier M, Eckstein F; OAI investigators. Sensitivity to change of cartilage morphometry using coronal FLASH, sagittal DESS, and coronal MPR DESS protocols--comparative data from the Osteoarthritis Initiative (OAI). *Osteoarthritis Cartilage* 2010;18:547-54.
- Altman RD, Dreiser RL, Fisher CL, Chase WF, Dreher DS, Zacher J: Diclofenac sodium gel in patients with primary hand osteoarthritis: a randomized, double-blind, placebo-controlled trial. *J Rheumatol* 2009;36:1991-9.
- Hurny C, Bernhard J, Gelber RD, Coates A, Castiglione M, Isley M, Dreher D, Peterson H, Goldhirsch A, Senn HJ. Quality of life measures for patients receiving adjuvant therapy for breast cancer: an international trial. The International Breast Cancer Study Group. *Eur J Cancer* 1992;28:118-24.