INSTITUTE OF ZOOLOGY and BIOMEDICAL RESEARCH
JAGIELLONIAN UNIVERSITY

On behalf of our Institute we invite you to join us for the next Distinguished Lecture.

On October 3rd 2019 (Thursday) we welcome

Prof. Ghislain Opdenakker

from

Department of Microbiology, Immunology and Transplantation,
Rega Institute for Medical Research, Belgium
for a lecture

From diabetic retinopathy to skin wound healing: in search of a target of matrix metalloproteinase-9 (MMP-9), alias gelatinase B

Location: Institute of Zoology and Biomedical Research, Gronostajowa 9, **conference room** (1st floor/by the secretary office; turn right from the elevators)
Time: **noon (12:00)**
Duration: approx. 1 hour

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Born in Dilsen, Belgium, 23 June 1956; M.D., summa cum laude, KU Leuven, June 1981; Postdoctoral associate at Yale University School of Medicine, New Haven CT, U.S.A 1986-1987; Aggr. PhD, March 1988; Professor of Molecular Medicine, Faculty of Medicine, Limburgs Universitair Centrum, Diepenbeek, Belgium, 1993-2000; Professor of Immunology, Universities of Leuven and Kortrijk, 1995-2012; Visiting Professor at the Glycobiology Institute and SCR Member, Exeter College, University of Oxford, UK, since 1992; Full Professor in the Faculty of Medicine, Universities of Leuven and Kortrijk, since1998; Member of the Board of Directors of the Rega Institute, since 1998; Head of the Department of Microbiology and Immunology, KU Leuven, 2006-2011; Visiting Professor, King Saud University, Riyadh, Saudi Arabia, since 2009; Belgian representative of the European Science Foundation (Strasbourg) for Projects in glycobiology (European GlycoScience Forum), 2009; Chairman-elect of the Board of Directors of the Rega Institute for Medical Research, since 2014; Standing Committee Member of the Belgian American Educational Foundation (BAEF), since 2016. Honorary Professor King Saud University, since 2019.

Selected Honorary Fellowships/Awards:

1. Member-elect of the Royal Academy of Medicine of Belgium, since 2002.
2. National Order of Merit of "Commander in the Order of King Leopold II", 2006.
3. Honorary International Fellow of the Royal College of Physicians, FRCP, London, UK, 2010
4. Chairman of the Commission for International Affairs of the Royal Academy of Medicine, since 2014.

Prof. Ghislain Opdenakker published >400 PubMed-registered articles on mechanisms of autoimmune diseases and on cytokines, chemokines and proteases; Hirsh index: **83,** citations **> 23.500** (source ISI).

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Abstract

Matrix metalloproteinase-9 or gelatinase B is the most complex member of a whole enzyme family in terms of structure and function. It is mainly produced by neutrophils and expressed under control of pro-inflammatory cytokines and chemokines. It plays a role in the generation of remnant epitopes in autoimmune diseases, including multiple sclerosis, rheumatoid arthritis and diabetes. Whereas it was also suggested by some groups to cause inflammatory bowel diseases (IBD/ulcerative colitis and Crohn's disease), we demonstrated that its increased levels are rather consequence than cause of IBD. Diabetic retinopathy represents a condition in which MMP-9 plays several disease-promoting functions: pathological angiogenesis and neurodegeneration. Recently, we started biochemical studies on novel posttranslational modifications in the regulation of MMP-9 activity and are addressing the question whether interference with neutrophil chemokine-mediated production of MMP-9 may be a way to turn chronic skin wounds in fresh granulation tissue.

Selected publications related to the talk:

1. Chemokine isoforms and processing in inflammation and immunity. P. Proost, S. Struyf, J. Van Damme, P. Fiten, E. Ugarte-Berzal and G. Opdenakker. J. Autoimmunity, 85: 45-57 (2017).

2. Inhibition of gelatinase B/MMP-9 does not attenuate colitis in murine models of inflammatory bowel disease. M. de Bruyn, C. Breynaert, I. Arijs, G. De Hertogh, K. Geboes, G. Thijs, J. Hu, J. Van Damme, B. Arnold, M. Ferrante, S. Vermeire, G. Van Assche and G. Opdenakker. Nature Commun., 8: 15384: 1-15 & supplementary data (2017).

3. Immunomodulation as rescue for chronic atonic skin wounds. G. Opdenakker, J. Van Damme and J. Vranckx. Trends Immunol., 39: 341-354 (2018).

4. Metalloproteinases mediate diabetes-induced retinal neuropathy and vasculopathy. G. Opdenakker and A. Abu El-Asrar Cell. Mol. Life Sci. 76: 3157-3166 (2019).