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23.02.1977, male, Children: three (*2007, *2010, *2017)

Head of Department of Immunodynamics

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University education

- 1998 – 2003 Studies in Biology, Rheinische Friedrich-Wilhelms-University Bonn, Universidade Estadual de Londrina, Londrina, Brazil
- 2003 – 2007 PhD thesis, Institute of Molecular Medicine and Experimental Immunology, University Hospital Bonn
- 2007 – 2010 Postdoc, Centre for Inflammatory Diseases, Monash University, Department of Medicine, Melbourne, Australia and Institute of Experimental Immunology, Bonn

Scientific degrees

- 2003 Diploma in Biology, Rheinische Friedrich-Wilhelms-University Bonn
- 2007 PhD thesis, University Hospital Bonn

Professional career

- 2001 – 2003 Research Fellow, Department Antiinfectiva, Bayer AG, Wuppertal
- 2003 – 2007 Research scientist, DFG-funded Clinical Research Group
- 2010 – 2014 Principal Investigator and Head of the Junior Research Group “Cellular and molecular mechanisms of the innate immune response in urinary tract infection”, Institute of Experimental Medicine, University Hospital Bonn
- 2014 – present Professor of Immunodynamics, University Duisburg-Essen

Selected professional service duties

- 2010 – present Ad hoc reviewer: Am Soc Nephrol, Biomark Insights, Eur J Immunol, Front Immunol, Histochem Cell Biol, J Clin Invest, J Leukoc Biol, Kidney Int, Mediators Inflamm, Nat Commun, Nephrol Dial Transplant, Pathogens, Science
- 2011 – present Editorial board member, Frontiers in Immunology, Antigen Presenting Cell Biology
- 2014 – present External reviewer for grant applications: German Research Foundation; Agence Nationale de la Recherche, France; Wellcome Trust, UK
- 2015 – present Spokesman of the Medical Research Center at the University Hospital Essen
- 2016 – present Leader of the BIOME Core “Infectious Diseases” – DFG-funded Graduate School - at the University Duisburg-Essen

Since 2021 Member of the German Consortium for Translational Cancer Research (DKTK) as “DKTK Investigator”

Awards and scholarships

2001 – 2003 Bayer Research Fellowship
2010 DAAD scholarship, Centre for Inflammatory Diseases, Monash University, Department of Medicine, Melbourne, Australia
2011 Fritz and Ursula Melchers Award of the German Society of Immunology (DGFI)
2013 Best Young Research Group Award; University Hospital Bonn

Selected publications (10 most important)

Lill J K, Thiebes S, Pohl JM, Bottek J, Subramaniam N, Christ R, Soun C, Gueler F, Zwanziger D, Hoffmann F, Eggeling F, Bracht Th, Sitek B, Hickey M. J., Hofnagel O, **Engel DR**. Tissue-resident macrophages mediate neutrophil recruitment and kidney injury in shiga toxin-induced hemolytic uremic syndrome, Kidney Int. 2021, 100, 349-363.

Subramaniam N, Bottek J, Thiebes S, Zec K, Kudla M, Soun C, de Dios Panal E, Lill J K, Pfennig A, Herrmann R, Bruderek K, Rahmann S, Brandau S, Johansson P, Reinhardt H C, Dürig J, Seiffert M, Bracht T, Sitek B, **Engel DR**. Proteomic and bioinformatic profiling of neutrophils in CLL reveals functional defects that predispose to bacterial infections. Blood Advances. 2021, 5, 1259–1272.

Bottek J, Soun C, Lill JK, Dixit A, Thiebes S, Beerlage AL, Horstmann M, Urbanek A, Heuer H, Uszkoreit J, Eisenacher M, Bracht Th, Sitek B, Hoffmann F, Vijitha N, Eggeling F, **Engel DR** Spatial proteomics revealed a CX3CL1-dependent crosstalk between the urothelium and relocated macrophages through IL-6 during an acute bacterial infection in the urinary bladder. Mucosal Immunol. 2020, 13, 702-714.

Pohl JM, Volke JK, Thiebes S, Brenzel A, Fuchs K, Beziere N, Ehrlichmann W, Pichler BJ, Squire A, Gueler F, **Engel DR**. CCR2-dependent Gr1^{high} monocytes promote kidney injury in shiga toxin-induced hemolytic uremic syndrome in mice. Eur J Immunol. 2018, 48:990-1000.

Dixit A, Bottek J, Beerlage AL, Schuettpelz J, Thiebes S, Brenzel A, Garbers C, Rose-John S, Mittrücker HW, Squire A, **Engel DR**. Proliferation of Ly6C⁺ monocytes during urinary tract infections is regulated by IL-6 trans-signaling. J Leukoc Biol. 2018, 1:13-22.

Pohl JM, Gutweiler S, Thiebes S, Volke J, Klein-Hitpass L, Zwanziger D, Gunzer M, Jung S, Agace W, Kurts C, **Engel DR**. Irf4-dependent CD103⁺CD11b⁺ dendritic cells and the intestinal microbiome regulate monocyte and macrophage activation and intestinal peristalsis in postoperative ileus. Gut 2017, 12:2110-2120.

Zec, K., Volke, J., Vijitha, N., Thiebes, S., Gunzer, M., Kurts, C., and **Engel, DR**. Neutrophil Migration into the Infected Uroepithelium Is Regulated by the Crosstalk between Resident and Helper Macrophages. Pathogens 2016, 5.

Engel DR, Krause TA, Snelgrove SL, Thiebes S, Hickey MJ, Boor P, Kitching AR, Kurts C. CX3CR1 Reduces Kidney Fibrosis by Inhibiting Local Proliferation of Profibrotic Macrophages. J Immunol. 2015, 194:1628-38.

Schiwon M, Weisheit C, Franken L, Gutweiler S, Dixit A, Meyer-Schwesinger C, Pohl JM, Maurice NJ, Thiebes S, Lorenz K, Quast T, Fuhrmann M, Baumgarten G, Lohse MJ, Opdenakker G, Bernhagen J, Bucala R, Panzer U, Kolanus W, Grone HJ, Garbi N, Kastenmuller W, Knolle PA, Kurts C, **Engel DR**. Crosstalk between Sentinel and Helper Macrophages Permits Neutrophil Migration into Infected Uroepithelium. Cell 2014, 156:456-68.

Engel DR, Koscielny A, Wehner S, Maurer J, Schiwon M, Franken L, Schumak B, Limmer A, Sparwasser T, Hirner A, Knolle PA, Kalff JC, Kurts C. T helper type 1 memory cells disseminate postoperative ileus over the entire intestinal tract. Nat Med. 2010, 16:1407-13.