

## Curriculum Vitae – Dr. Michael Sigal

### Personal Details

Name: Michael Sigal

Date of Birth: 02.03.1984

Charité Universitätsmedizin Berlin  
Medizinische Klinik m.S. Hepatologie und Gastroenterologie, Augustenburger Platz 1  
13353 Berlin, Germany

E-Mail: michael.sigal@charite.de

### Education

06/2004 Abitur

09/2004 – 11/2010 School of Medicine, University of Rostock

12/2010 License to Practice as a Physician

02/2012: Doctoral Thesis at the Institute of Experimental Surgery, University of Rostock:  
„Therapeutic Effects of Darbepoetin-alpha in a Murine Model of Cholestatic Liver Disease“  
*Final grade: summa cum laude*

02/2011 – 10/2012: Clinical Resident at the Department for Hepatology and Gastroenterology, at Charité University Hospital, Berlin, Germany

10/2012-03/2015: Postdoctoral Research Fellow, Stanford University School of Medicine, Department of Microbiology and Immunology, lab of Manuel R. Amieva

04/2015-10/2015: Postdoctoral Research Fellow, Max Planck Institute for Infection Biology, lab of Thomas F Meyer

from 04/2015: Clinical Fellow at the Department for Hepatology and Gastroenterology, at Charité University Hospital, Berlin, Germany and Guest Scientist at the MPI for Infection Biology

from 03/2016: Project leader, DFG-funded projects

08/2016-08/2019: Clinician Scientist, BIH, Berlin Institute of Health

05/2019: Board Certification in Internal Medicine and Gastroenterology  
(Berlin, Germany)

from 07/2019: Attending Physician (Oberarzt)

from 08/2019: Independent Group Leader, funded within the Emmy Noether  
Programme of the DFG

04/2020 Habilitation, Charité University Medicine - FU and HU Berlin

**Awards/Honors:**

2012: Doctoral Thesis with final grade: *summa cum laude*

2014: "Best Talk", Department of Pediatrics Research Retreat, Stanford University

2014: Top Abstract Prize, United European Gastroenterology Week

2019: Thannhauser Prize, German Society of Gastroenterology (DGVS)

2020: UEG "Rising Star" award

2020: Member of the Abstract Reviewer Committee "Upper GI Tract" for the DGVS

**Fellowships/Grants:**

George Will Foundation; Berlin, Germany - one year postdoctoral fellowship

Postdoctoral Research Fellowship Grant, German Research Foundation (DFG) – 1.5 years  
fellowship

Research Seed Grant from the Division of Gastroenterology, Stanford School of Medicine

BIH Clinician Scientist Programme – funding covering 50% of my salary for 3 years

DFG Research Grant (Sachbeihilfe) to study gastric stem cell microenvironment for 3 years  
(2016-2019) 400.000 Euro

DFG Research Grant and Member of the DFG SPP Intestinal Microbiota (2016-2019) 400.000  
Euro

Emmy Noether DFG Grant (2019-2025) 1.600.000 Euro

**Invited Talks (selection):**

United European Gastroenterology Week 2014, Plenary Session

Department of Microbiology and Immunology Seminar Series, Stanford University, 2014

European Initiative for Basic Research in Microbiology and Infectious Diseases, 2015

Gordon Conference Microbial Adhesion and Signal Transduction, 2017

Oxford University, Translational Gastroenterology Unit and Ludwig Institute for Cancer  
Research 2018

Sapporo International Cancer Symposium 2018

EMBO Workshop on the link between bacterial infections and human cancer 2019

Seminar Series of the Max Delbrück Center 2020

## Publications

Wizenty J Tacke F, **Sigal M**. Responses of gastric epithelial stem cells and their niche to *Helicobacter pylori* infection *Annals of Translational Medicine* in press

Harnack,C, Berger H, Antanaviciute A, Vidal R, Sauer S, Simmons A, Meyer TF, **Sigal M**. R-spondin 3 promotes stem cell recovery and epithelial regeneration in the colon *Nature Communications* volume 10, 2019; Article number: 4368.

**Sigal M**, Reines M, Müllerke S, Fischer C, Kapalczynska M, Berger H, Bakker ERM, Mollenkopf HJ, Rothenberg ME, B Wiedenmann B, Sauer S, Meyer TF. R-spondin-3 induces secretory, antimicrobial Lgr5+ cells in the stomach. *Nature Cell Biology* 2019, Jul;21(7): 812-823.

Fischer AS and **Sigal M**. The Role of Wnt and R-spondin in the Stomach During Health and Disease. *Biomedicines* 2019 Jun 19;7(2). pii: E44

Iftekhar A, Sperlich A, Janssen KP, **Sigal M**. Microbiome and Disease: Colorectal Cancer; in: *The Gut Microbiome* (Editor: Dirk Haller, Springer 2018) ISBN: 978-3-319-90544-0

**Sigal M**, Logan CY, Kapalczynska M, Mollenkopf HJ, Berger H, Wiedenmann B, Nusse R, Amieva MR, Meyer TF. Stromal R-spondin orchestrates gastric stem cell and epithelium homeostasis *Nature*. 2017: 548: 451-455.

**Sigal M**. & Meyer TF. Coevolution between the Human Microbiota and the Epithelial Immune System. *Digestive Diseases*, 2016

**Sigal M**, Rothenberg ME, Logan CY, Lee JY, Honaker RW, Cooper RL, Passarelli B, Camorlinga M, Bouley DM, Alvarez G, Nusse R, Torres J, Amieva MR. Helicobacter pylori Activates and Expands Lgr5(+) Stem Cells Through Direct Colonization of the Gastric Glands. *Gastroenterology*. 2015 Jun; 148(7):1392-1404.

Earle KA,\* Billings G,\* **Sigal M**, Lichtman JS, Hansson GC, Elias JE, Amieva MR, Huang KC, Sonnenburg JL. Quantitative Imaging of Gut Microbiota Spatial Organization. *Cell Host Microbe*. 2015 Oct 14;18(4):478-488.

Morey P, Pfannkuch L, Pang E, Boccellato F, **Sigal M**, Imai-Matsushima A, Dyer V, Koch M, Mollenkopf HJ, Schlaermann P, Meyer TF. Helicobacter pylori Depletes Cholesterol in Gastric Glands to Prevent Interferon gamma Signaling and Escape the Inflammatory Response *Gastroenterology*. 2018 Apr;154(5):1391-1404

Huang JY, Sweeney EG, **Sigal M**, Zhang H, Remington SJ, Cantrell MA, Kuo CJ, Guillemin K, Amieva MR , Chemodetection and Destruction of Host Urea allows Helicobacter pylori to locate the epithelium, accepted, *Cell Host Microbe* 2015 Aug 12;18(2):147-56

Eipel C, Menschikow E, **Sigal M**, Kuhla A, Abshagen K, Vollmar B. Hepatoprotection in bile duct ligated mice mediated by darbepoetin- $\alpha$  is not caused by changes in hepatobiliary transporter expression. *Int J Clin Exp Pathol*. (2013) 80-90.

**Sigal M**, Pape UF, Wiedenmann B. Gastroenteropancreatic Neuroendocrine Tumors. *Ther Umsch*. (2012) 591-596

**Sigal M**, Siebert N, Zechner D, Menschikow E, Abshagen K, Vollmar B, Eipel C. Darbepoetin-alpha inhibits the perpetuation of necro-inflammation and delays the progression of cholestatic fibrosis in mice. *Lab Invest* (2010) 1447-1456