

Anita Yvonne Voigt, PhD

EDUCATION & QUALIFICATIONS

- Since 2016** **PostDoc**
The Jackson Laboratory for Genomic Medicine, Farmington, USA, Oh Group & Weinstock Group
Understanding the link between the skin microbiota and skin cancer development in humans and mice
- 2015** **PostDoc**
European Molecular Biology Laboratory (EMBL) Heidelberg, Germany, Bork Group
Researching the link between the oral and intestinal microbiota in health and disease
- 2011 – 2014** **PhD in Biology**
EMBL Heidelberg and University of Heidelberg, Germany
Thesis title: Colorectal cancer-associated microbial and immunological alterations
Supervised by: Prof. Dr. Peer Bork and Prof. Dr. Magnus von Knebel Doeberitz
- 2008 – 2010** **M.Sc. in Molecular Biotechnology**
University of Heidelberg, Germany
Thesis title: Genetic and epigenetic alterations of microsatellite unstable colorectal cancer
Supervised by: Prof. Dr. Magnus von Knebel Doeberitz and Dr. Matthias Kloor
- 2005 – 2008** **B.Sc. in Molecular Biotechnology**
University of Heidelberg, Germany

SKILLS, TRAINING & RESPONSIBILITIES

Molecular biology: DNA and RNA purification from various sample types, PCR and qPCR, sample preparation for Sanger sequencing and pyrosequencing, library construction for 16S rRNA gene and metagenomic sequencing, gel electrophoresis, microsatellite instability analysis, CRISPR, cloning

Immunoassays: Immunohistochemistry, Western blotting, Enzyme-linked immunosorbent assay (ELISA)

General training courses:

- Bioinformatics: Introduction to R and programming, Intermediate Command Line course
- General career development: Scientific project management, Personal effectiveness, Grant writing, Networking for scientists, Science communication, Career Management

Responsibilities: *Establishment of collaborations* with physicians at the Heidelberg University Hospital (Germany) and MD Anderson Texas (USA) and with animal facilities; *project coordination*; involvement in writing of *grant and ethics applications*, patient information documents and *sample operation procedures* for multi-omic studies; training of students in the laboratory

PUBLICATIONS (*first or co-first authorship)

Kultima JR, Coelho LP, Forslund K, Huerta-Cepas J, Li SS, Driessen M, **Voigt AY**, Zeller G, Sunagawa S, Bork P. MOCAT2: a metagenomic assembly, annotation and profiling framework. **Bioinformatics**, 2016

Li SS, Zhu A, Hildebrand F, Huerta-Cepas J, Sunagawa S, Benes V, Nieuwdorp M, Salojärvi J, **Voigt AY**, Zeller G, de Vos WM, Costea PI, Bork P. Durable coexistence of donor and recipient strains after fecal microbiota transplantation. **Science** 352(6285), 2016

Vogtmann E, Hua X, Zeller G, Sunagawa S, **Voigt AY**, Hercog R, Goedert JJ, Shi J, Bork P, Sinha R. Colorectal cancer and the human gut microbiome: Reproducibility with whole-genome shotgun sequencing. **PlosOne** 11(5), 2016

Forslund K, Hildebrand F, Nielsen T, Falony G, Le Chatelier E, Sunagawa S, Prifti E, Vieira-Silva S, Gudmundsdottir V, Pedersen HK, Arumugam M, Kristiansen K, **Voigt AY**, Vestergaard H, Hercog R, Costea PI, Kultima JR, Li J, Jørgensen T, Levenez F, Dore J, MetaHIT consortium, Nielsen HB, Brunak S, Raes J, Hansen T, Wang J, Ehrlich SD, Bork P, Pedersen O. Disentangling disease- and drug signatures of the human gut microbiome: the case of type 2 diabetes mellitus. **Nature** 528(7581), 2015

Voigt AY*, Costea PI, Kultima JR, Li SS, Zeller G, Sunagawa S, Bork P. Temporal and technical variability of human gut metagenomes. **Genome Biol** 16(1), 2015

Surmann EM*, **Voigt AY***, Michel S, Bauer K, Reuschenbach M, Ferrone S, von Knebel Doeberitz M, Kloor M. Association of high CD4-positive T cell infiltration with mutations in HLA class II-regulatory genes in microsatellite-unstable colorectal cancer. **Cancer Immunol Immunother** 64(3), 2015

Zeller G*, Tap J*, **Voigt AY***, Sunagawa S, Kultima JR, Costea PI, Amiot A, Böhm J, Brunetti F, Habermann N, Hercog R, Koch M, Luciani A, Mende DR, Schneider MA, Schrotz-King P, Tournigand C, Tran Van Nhieu J, Yamada T, Zimmermann J, Benes V, Kloor M, Ulrich CM, von Knebel Doeberitz M, Sobhani I, Bork P. Potential of fecal microbiota for early-stage detection of colorectal cancer. **Mol Sys Biol** 10(11), 2014

Hildebrand F, Tadeo R, **Voigt AY**, Bork P, Raes J. LotuS: an efficient and user-friendly OTU processing pipeline. **Microbiome** 2(30), 2014

Steinert G, Schölch S, Niemiets T, Iwata N, García SA, Behrens B, **Voigt A**, Kloor M, Benner A, Bork U, Rahbari NN, Büchler MW, Stoecklein NH, Weitz J, Koch M. Immune escape and survival mechanisms in circulating tumor cells of colorectal cancer. **Cancer Res.** 74(6), 2014

Capper D, **Voigt A**, Bozukova G, Ahadova A, Kickingeder P, von Deimling A, von Knebel Doeberitz M, Kloor M. BRAF V600E-specific immunohistochemistry for the exclusion of Lynch syndrome in MSI-H colorectal cancer. **Int J Cancer** 133(7), 2013

Huth C, Kloor M, **Voigt AY**, Bozukova G, Evers C, Gaspar H, Tariverdian M, Schirmacher P, von Knebel Doeberitz M, Bläker H. The molecular basis of EPCAM expression loss in Lynch syndrome-associated tumors. **Mod Pathol** 25(6), 2012

Kloor M, Huth C, **Voigt AY**, Benner A, Schirmacher P, von Knebel Doeberitz M, Bläker H. Prevalence of mismatch repair-deficient crypt foci in Lynch syndrome: a pathological study. **Lancet Oncol** 13(6), 2012

Kloor M*, **Voigt AY***, Schackert HK, Schirmacher P, von Knebel Doeberitz M, Bläker H. Analysis of EPCAM protein expression in diagnostics of Lynch syndrome. **J Clin Oncol** 29(2), 2011

TALKS & POSTERS

Oral presentations:

- **Wir sind nicht allein – Bakterien unsere heimlichen Mitbewohner**, talk for the German public (350 attendees), EMBL Heidelberg, 2014
- **Defects of HLA class II antigen expression and infiltration with CD4+ T cells in MSI-H colorectal cancer**, InSiGHT, San Antonio, USA, 2011

Poster presentations:

- **Voigt AY**, Costea PI, Kultima JR, Li SS, Zeller G, Forslund F, Sunagawa S, Bork P. The gut microbiome in response to temporal and technical variability, **International Human Microbiome Conference**, Luxemburg, 2015 and **The Human Microbiome Conference**, EMBL, Heidelberg, Germany, 2015
- **Voigt AY**, Zeller G, Tap, J, Sunagawa S, Kultima JR, Costea PI, Forslund K, Schrotz-King P, Kloor M, Ulrich CM, von Knebel Doeberitz M, Sobhani I, Bork P, Assessment of the human gut microbiome in response to temporal, technical, and colorectal cancer-associated variability, **International Conference on Systems Biology of Human Disease**, Boston, USA, 2014

SELECTED NATIONAL & INTERNATIONAL WORK EXPERIENCE

Jan – Mar 2010 **Research internship**

University of Cambridge, Cambridge, UK

Topic: Analyzing the influence of DNA on the proteolytic digest of ovine recombinant prion proteins and preparation of pUASTattB-PrP vectors for *D. melanogaster* transgenesis

Aug – Sept 2009 **Research internship**

National Tsing Hua University (NTHU), Hsinchu, Taiwan

Topic: Comparing the brain proteome of *D. melanogaster* living in the dark and in Light-Dark cycles with 2D-DIGE

- Feb – Apr 2008** **Research internship**
Centro de Investigación Biomédica de Occidente (CIBO), Guadalajara, Mexico
Topic: Studying polymorphisms in the metastasis-suppressor genes *NME1*, *KISS1* and *BRMS1* in breast and prostate cancer
- Aug – Sept 2007** **Research internship**
Graffinity Pharmaceuticals GmbH, Heidelberg
Topic: Establishing solid phase library synthesis for kinase inhibitors

OUTREACH & TEACHING

- Jan 2016** Career talk for high school students in Gislaved, Sweden
- June 2014** EMBL representative at the 64th Lindau Nobel Laureate Meeting, Lindau, Germany
- 2013 - 2015** Participation in (inter-)national TV documentations about the human gut microbiome, broadcasted by ARTE (French-German), NDR (German) and NHK World (Japan)
- Oct 2013** Training of local scientific staff and establishment of sample preparation methods for metagenomic studies at the Nazarbayev University, Astana, Kazakhstan
- 2012** Part of the organization team of the 14th EMBL International PhD Symposium “Networks in Life Sciences: Genomics, Proteomics and System Biology”

PATENT, AWARDS & FUNDING

- Since 2016** Pyewacket postdoctoral fellowship
- 2016** Felix Burda Award 2016 for the work on “Microbial biomarkers for the early detection of colorectal cancer”
- 2015** Poster prize, EMBL PostDoc Retreat
- 2015** EMBL Internal Predoc Travel Grant for the “International Human Microbiome Conference”, Luxemburg
- 2011 – 2014** Fellowship for the EMBL International PhD Programme
- 2014** Patent Application EP14172205.8, Bork et al., Method for diagnosing adenomas and/or colorectal cancer (CRC) based on analyzing the gut microbiome. Filed in June 2014 [pending]
- 2014** Travel Grant for the International Conference on “Systems Biology of Human Disease”, Boston, USA
- 2013** Schönlein Science Award 2013 of the Bamberg Morphology Conference, Bamberg, Germany
- 2010** Erasmus Placement for the internship in Cambridge, UK
- 2009** DAAD/NSC scholarship for the Summer Institute Program in Taiwan