

**NIH BIOGRAPHICAL SKETCH**

NAME Franke, Andre		POSITION TITLE Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) AFRANKE			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Christian-Albrechts-University Kiel (CAU), Institute of Clinical Molecular Biology	Diploma Dr. rer. nat.	2003 2006	Developmental Biology Genetics

**A. Positions and Honors.****Positions and Employment**

2008-2011	Junior Professorship (W1) for Epithelial Barrier Diseases within the DFG excellence cluster "Inflammation at Interfaces"
2008-2013	Academic guest position at the Medical Faculty, University of Oslo, Norway (Rikshospitalet)
2011-2016	W2 endowment professorship "Peter Hans-Hofschneider" of the Foundation of Experimental Biomedicine
2011	Guest scientists at the Broad Institute of MIT and Harvard (Boston, USA) in the group of Mark J. Daly and mentored by Richard S. Blumberg
Since 2011	Director of the Institute of Clinical Molecular Biology and the high-throughput core facilities
Since 2016	Full W3 professorship of Molecular Medicine

**Other Experience and Professional Memberships**

2009-2012	Spokesperson of the young investigators in the DFG Excellence Cluster 306 "Inflammation at Interfaces"
Since 2012	Spokesperson of the DFG Research Training Group GRK 1743/1 "Genes, Environment and Inflammation"
Since 2012	Member of the Steering Committee of the DFG Excellence Clusters "Inflammation at Interfaces" and "Precision Medicine in Chronic Inflammation"

**Honors**

2008	Hensel-prize (100,000 €) for excellent research from CAU Kiel
2011	Janssen Prize Dermatology
2011	W2 Peter Hans-Hofschneider professorship of Foundation of Experimental Biomedicine (Zürich, Switzerland)
2012	Ludwig-Demling Research Prize of German Crohn's and Colitis Foundation (DCCV; 20,000 €)
2017	Thannhauser Prize of the DGVS (German Society for Digestive and Metabolic Diseases; 10,000 €)
2017	Schleswig-Holstein Excellence Chair (8 professors in State selected)

## B. Selected peer-reviewed publications (in chronological order).

10 best publications in last five years selected from overall **533** peer-reviewed publications (14 first and 81 last authorships), cumulative impact factor **5,981**. H-index according to Scopus: **94** (39,647 citations). **Eighty manuscripts with IF>20** (e.g. 17x Nature, Science and Cell; 4x NEJM; 48 Nature Genetics).

- 1) Degenhardt F, ..., Karlsen TH, Rioux JD, Brant SR; MAAIS Recruitment Center, [Franke A](#); International IBD Genetics Consortium *Trans-ethnic analysis of the human leukocyte antigen region for ulcerative colitis reveals shared but also ethnicity-specific disease associations*. **Hum Mol Genet**. 2021
- 2) Rühlemann MC, Hermes BM, Bang C, Doms S, Moitinho-Silva L, Thingholm LB, Frost F, Degenhardt F, Wittig M, Kässens J, Weiss FU, Peters A, Neuhaus K, Völker U, Völzke H, Homuth G, Weiss S, Grallert H, Laudes M, Lieb W, Haller D, Lerch MM, Baines JF, [Franke A](#). *Genome-wide association study in 8,956 German individuals identifies influence of ABO histo-blood groups on gut microbiome*. **Nat Genet**. 2021
- 3) Kummern M, Thingholm LB, Rühlemann MC, Holm K, Hansen SH, Moitinho-Silva L, Liwinski T, Zenouzi R, Storm-Larsen C, Midttun Ø, McCann A, Ueland PM, Høivik ML, Vesterhus M, Trøseid M, Laudes M, Lieb W, Karlsen TH, Bang C, Schramm C, [Franke A](#)\*, Hov JR. *Altered Gut Microbial Metabolism of Essential Nutrients in Primary Sclerosing Cholangitis*. **Gastroenterology**. 2020 Dec 31
- 4) Ellinghaus D, Degenhardt F, ..., [Franke A](#)\*, Karlsen TH\*; Severe Covid-19 GWAS Group. *Genomewide Association Study of Severe Covid-19 with Respiratory Failure*. **N Engl J Med**. 2020 Jun 17.
- 5) ElAbd H, Bromberg Y, Hoarfrost A, Lenz T, [Franke A](#)\*, Wendorff M. *Amino acid encoding for deep learning applications*. **BMC Bioinformatics**. 2020 Jun 9;21(1):235.
- 6) Thingholm LB, Rühlemann MC, Koch M, ..., Lieb W, Laudes M, [Franke A](#)\*#, Huttenhower C\*. *Obese Individuals with and without Type 2 Diabetes Show Different Gut Microbial Functional Capacity and Composition*. **Cell Host Microbe**. 2019 Aug 14;26(2):252-264.e10. # correspondence
- 7) Degenhardt F, Wendorff M, Wittig M, Ellinghaus E, ..., Lenz TL, Brant SR, [Franke A](#). *Construction and benchmarking of a multi-ethnic reference panel for the imputation of HLA class I and II alleles*. **Hum Mol Genet**. 2019 Jun 15;28(12):2078-2092.
- 8) Ellinghaus D, Jostins L, Spain SL, ..., Parkes M, Brown MA, [Franke A](#). *Analysis of five chronic inflammatory diseases identifies 27 new associations and highlights disease-specific patterns at shared loci*. **Nat Genet**. 2016;48(5):510-8.
- 9) Wang J, Thingholm LB, Skiecevičienė J, ..., Karlsen TH, Baines JF, [Franke A](#). *Genome-wide association analysis identifies variation in vitamin D receptor and other host factors influencing the gut microbiota*. **Nat Genet**. 2016;48(11):1396-1406.
- 10) Fischer U, Forster M, Rinaldi A, Risch T, ..., Lehrach H, Borkhardt A\*, Bourquin JP\*, [Franke A](#)\*, Korbel JO\*, Stanulla M\*, Yaspo ML\*. *Genomics and drug profiling of fatal TCF3-HLF-positive acute lymphoblastic leukemia identifies recurrent mutation patterns and therapeutic options*. **Nat Genet**. 2015;47(9):1020-9.  
\*shared senior authorship, alphabetical order & coordinated from Kiel

\* shared authorship

## Research Support

### Ongoing Research Support

2021-2024	DFG "A pathogen-specific CD4 T cell atlas for chronic inflammatory diseases"; 31,100 €
2020-2024	DFG Research Unit 5042 "miTarget"; 4,762,232 €
2020-2024	EU PCP "Instand-NGS4P"; 1,328,728€
2020-2023	DFG CRC 1182– "Origin and function of metaorganisms"; subprojects A02 und INF; 720,900 €
2019-2026	EU IMI ImmUniverse-3TR; 2,700,000 €
2019-2024	EU IMI ImmUniverse; 2,613,900 €
2019-2023	EU "European Advanced Infrastructure for Innovative Genomics (EASI-Genomics; Project ID: 824110); 806,866 €
2019-2023	BMBF iTREAT "A systems medicine approach to individualized treatment trajectories in psoriasis and IBD"; 330,815 €
2019-2022	DFG Cluster of Excellence "Precision Medicine in Inflammation" (PMI); PI of RTF I "Genomic Diversity", RTF VI "Sequence-based profiling", RTF X "General Patient Access and CCIM", TI-2 "Integrative Immunogenetics and Cellular Approaches towards Developing an Antigen-Specific Therapy" and Area Z "Data Management"; >2,812,910 €
2019-2022	BMBF GUIDE-IBD "Molecular Medicine therapy guidance in inflammatory disease"; 318,797 €
2019-2022	ZIM project "good2blood"; 190,000 €
2019-2022	DFG CRU 306 – "Primary Sclerosing Cholangitis" (ID: ID: FR 2821/10-2), phase II; subprojects 1 & INF; 566,300 €
2019-2021	DFG "Clinician Scientist Program in Evolutionary Medicine"; 1,786,000 €
2019-2021	DFG "Discovery of risk factors for hemorrhoids" (ID: FR 2821/19-1); 410,003 €
2019-2021	EU Interreg "Changing Cancer Care (CCC)"; 100,000 €
2019-2021	DFG-RFBR Cooperation: "Systems medicine approach towards the immune repertoire in inflammatory bowel diseases (IBD)" (ID: FR 2821/18-1); 286,100 €
2019-2021	Else Kröner-Fresenius-Stiftung (EKFS) "Darm-Gehirn-Achse"; associated mentor
2017-2022	EU "SYSCID - A systems medicine approach to chronic inflammatory disease"; 2,283,408 €
2017-2021	DFG Research Training Group 1743 "Genes, Environment and Inflammation" (spokesperson); 3,172,000 €

### Completed Research Support

2004-2007	BMBF NGFN2: Environmental Disorders, Project ID: NUW-S23T06 (>1 Mio. EUR incl. personnel)
2008	NoPSC (patient organization): 200k EUR for German PSC GWAS
2008	EXC Call01 Miniproposal "Next generation (ultrafast) sequencing – an infrastructure relevant for the excellence cluster": 50k €
2008	EXC Call01 Miniproposal "A comprehensive GW analysis of structural variation in concordant/discordant monozygotic twins for IBD": 50k €
2008-2012	BMBF NGFNplus "IG Systematic Genomics of Chronic Inflammatory Barrier Diseases"; subprojects GP1, GP6, GP7, T3; 2,288,000€
2008-2012	DFG Cluster of Excellence (ID: EXC 306) "Inflammation at Interfaces"; Research Area I, Z, I-d, and IRN Z; 957,000 €
2009	Industry: Giuliani S.p.A. (Milan, Italy); 100,000k EUR
2009	DFG „Großgerät nach Art. 91b GG“: „Hochdurchsatzroboter für Genotypisierungs-, Expressions- und epigenetische Studien“ (Illumina iScan) (ID: Inst 257/348-1); 520,000 EUR
2010-2012	DFG "A genome-wide phenotype-overlapping approach for the identification of shared disease loci." (ID: FR 2821/2-1); 717,000€
2011-2012	DFG "Fine mapping of susceptibility loci for atopic dermatitis on chromosome 1q21.3 and chromosome 11q13.5." (ID: WE 2678/6-2); 85,000 €

- 2011 Industry: Siemens “Next Generation Genetic Diagnostics”; 347,000€
- 2011-2015 ESGI European Sequencing and Genotyping Infrastructure (ID: 262055); 694,000€
- 2011-2015 EPIHEALTH “Linking perturbed maternal environment during periconceptional development, due to diabetes, obesity or assisted reproductive technologies, and altered health during ageing” (ID: 278418); 461,000€
- 2012-2015 BfS Pilotstudie “Sequenzierung und bioinformatische Auswertung von kindlichen Leukämie-Fällen (Akute lymphoblastische Leukämie/ALL) (ID: 3611S70014); 740,610€
- 2013 Industry: Siemens “Zusammenarbeit auf dem Gebiet der molekularen Mikrobiologie”; 682,000 €
- 2013-2014 International Psoriasis Council: Towards Completing the Genetic Risk Map for Psoriasis: Rare Protein-altering Variants in 10,000 Psoriasis Cases and 10,000 Controls; 133,000€
- 2013-2014 PSC Partners Seeking a Cure: Whole Exome Sequencing of PSC patients with severe Disease; 47,000€
- 2014 Industry: Siemens “Zusammenarbeit auf dem Gebiet der Einzelzellanalyse”; 26,000k €
- 2012-2017 DFG Cluster of Excellence (ID: EXC 306) “Inflammation at Interfaces”; Cluster Laboratory IX “Theoretical Biology” and Research Area Z “Data Management”; 2,462,061 €
- 2012-2017 DFG Research Training Group (ID: GRK1743/1) “Genes, Environment and Inflammation”; 2400 k€ for the whole group
- 2013-2016 BMBF e:Med grant “SysINFLAME” (ID: 01ZX1306A); subprojects CP3 and CP10; 902,479 €
- 2014-2016 DFG “Whole-exome sequencing of Crohn’s disease pedigrees” (ID: FR 2821/6-1); 273,000€
- 2014-2016 DFG “Untersuchung des monogenen essentiellen Tremors durch Exomsequenzierung” (ID: FR 2821/9-1); 80,000€
- 2014-2016 DFG “Die Bedeutung von seltenen Varianten in lysosomalen Genen in der Pathogene der Parkinson Krankheit” (ID: FR 2821/7-1); 28,000€
- 2015-2017 BMBF VarWatch – A Database of in limbo Genetic Variants from Next Generation Sequencing (ID: 01EK1506); 457,000€
- 2016-2018 DFG CRU – “Primary Sclerosing Cholangitis” (ID: ID: FR 2821/10-1); subproject 1; 404,200€
- 2017-2018 DFG Cluster of Excellence “Inflammation at Interfaces”; PI of Research Area I “Genetic and phenotypic architecture of inflammatory barrier diseases”, Cluster Laboratory IX “Theoretical Biology” and Research Area Z “Data Management”
- 2016-2019 DFG CRU 306 – “Primary Sclerosing Cholangitis” (ID: ID: FR 2821/10-1), phase I; subprojects 1 & INF; 404,200 €
- 2016-2019 DFG CRC 1182– “Origin and function of metaorganisms”; subprojects A02 und INF; 1,015,000€
- 2017-2019 BMBF e:Med grant “SysINFLAME”; subprojects CP3 and CP10
- 2018-2019 Pfizer “Establishment of a mobile patient app for bridging communication and knowledge gaps between ulcerative colitis patients and physicians”; 55,000 €