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Curriculum vitae

Since 2019	Scientific and managing director, Max Planck Unit for the Science of Pathogens (MPUSP), Berlin
2018	Founding and acting director, Max Planck Unit for the Science of Pathogens (MPUSP), Berlin
Since 2016	Honorary professor, Humboldt-Universität zu Berlin
2015 – 2018	Director, Department of Regulation in Infection Biology, Max Planck Institute for Infection Biology, Berlin
2014 – 2017	Lab head, visiting professor, Laboratory for Molecular Infection Medicine Sweden (MIMS), Umeå Centre for Microbial Research (UCMR), Department of Molecular Biology, Faculty of Medicine, Umeå University, SE
2014 – 2015	Alexander von Humboldt Professorship
2013 – 2015	Department head, full professor (W3), Helmholtz Centre for Infection Research (HZI), Braunschweig; Department of Regulation in Infection Biology, Medizinische Hochschule Hannover
2013	Docent (Medical Microbiology), Faculty of Medicine, Umeå University, SE
2009 – 2014	Research group leader, associate professor, Laboratory for Molecular Infection Medicine Sweden (MIMS), Umeå Centre for Microbial Research (UCMR), Department of Molecular Biology, Faculty of Medicine, Umeå University, SE
2006 – 2009	Research group leader, associate professor, Max F. Perutz Laboratories, Universität Wien, AT
2006	Venia legendi (Habilitation) in Microbiology, Universität Wien, AT
2004 – 2006	Research group leader, ass istant professor, Department of Microbiology and Immunobiology, Universität Wien, AT
2002 – 2004	Research group leader, guest professor, Institute of Microbiology and Genetics, Universität Wien, AT
1999 – 2002	Research associate, Skirball Institute of Biomolecular Medicine, New York, US
1999	Research associate, St. Jude Children's Research Hospital, Memphis, US
1997 – 1999	Assistant research scientist, New York University Medical Center, New York, US
1996 – 1997	Postdoctoral associate, The Rockefeller University, New York, US
1995 – 1996	Postdoctoral assistant, Institute Pasteur, Paris, FR
1996	PhD in Microbiology, Pierre and Marie Curie University, Paris, FR
1993 – 1995	University teaching assistant, Pierre and Marie Curie University, Paris, FR
1986 – 1992	Studies in Microbiology, Biochemistry and Genetics, Pierre and Marie Curie University, Paris, FR

Research fields

The Max Planck Unit for the Science of Pathogens (MPUSP)'s research program focuses on:

- The bacterial adaptive immune system CRISPR-Cas and applications of the CRISPR-Cas9 genome editing and engineering technology in human medicine
- Molecular infection biology: molecular and cellular mechanisms governing physiology and infection-associated processes in Gram-positive bacterial pathogens (regulatory RNAs and proteins, post-transcriptional and post-translational regulation, bacterial recognition by immune cells, host-pathogen interactions…)

Activities in the scientific community, honors, awards

2009 – 2019 National and international recognition: Prizes and awards (›55), Elected academy and society memberships (18), Doctor honoris causa (10), Co-inventor of CRISPR-Cas9 genome editing breakthrough technology recognized worldwide in the broader community of biotechs, industries and world affairs

Selected publications

Lécrivain AL, le Rhun A, Renault TT, Ahmed-Begrich R, Hahnke K and Charpentier E. In vivo 3'-to-5' exoribonuclease targetomes of Streptococcus pyogenes. Proc Natl Acad Sci U S A 2018; 115:11814-11819

Hille F, Richter H, Wong SP, Bratovič M, Ressel S and Charpentier E. The biology of CRISPR-Cas: Backward and forward. Cell 2018; 172:1239-1259

Richter F, Fonfara I, Bouazza B, Schumacher CH, Bratovic M, Charpentier E, Moglich A. Engineering of temperature- and light-switchable Cas9 variants. Nucleic Acids Res 2016; 44:10003-10014

Eggenschwiler R, Moslem M, Fraguas MS, Galla M, Papp O, Naujock M, Fonfara I, Gensch I, Wahner A, Beh-Pajooh A, Mussolino C, Tauscher M, Steinemann D, Wegner F, Petri S, Schambach A, Charpentier E, Cathomen T, Cantz T. Improved bi-allelic modification of a transcriptionally silent locus in patient-derived iPSC by Cas9 nickase. Sci Rep 2016; 6:38198

Fonfara I, Richter H, Bratovic M, Le Rhun A, Charpentier E. The CRISPR-associated DNA-cleaving enzyme Cpf1 also processes precursor CRISPR RNA. Nature 2016; 532:517-521

Fonfara I, Le Rhun A, Chylinski K, Makarova KS, Lecrivain AL, Bzdrenga J, Koonin EV, Charpentier E. Phylogeny of Cas9 determines functional exchangeability of dual-RNA and Cas9 among orthologous type II CRISPR-Cas systems. Nucleic Acids Res 2014; 42:2577-2590

Doudna JA, Charpentier E. Genome editing. The new frontier of genome engineering with CRISPR-Cas9. Science 2014; 346:1258096

Chylinski K, Le Rhun A, Charpentier E. The tracrRNA and Cas9 families of type II CRISPR-Cas immunity systems. RNA Biol 2013; 10:726-737

Jinek M, Chylinski K, Fonfara I, Hauer M, Doudna JA, Charpentier E. A programmable dual-RNA-guided DNA endonuclease in adaptive bacterial immunity. Science 2012; 337:816-821

Deltcheva E, Chylinski K, Sharma CM, Gonzales K, Chao Y, Pirzada ZA, Eckert MR, Vogel J, Charpentier E. CRISPR RNA maturation by trans-encoded small RNA and host factor RNase III. Nature 2011; 471:602-607