Prof. Dr. Christian Speck

Date of birth: 03.10.1970

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Christian Speck received his Ph.D. in biochemistry from the Freie Universität Berlin, while researching bacterial gene regulation and DNA replication in the laboratory of Prof. Walter Messer at the Max-Planck Institute of Molecular Genetics, Germany. He was awarded a Leukemia & Lymphoma Society fellowship to train with Dr. Bruce Stillman at Cold Spring Harbor Laboratory, USA. Since 2006 he runs his own laboratory initially at the Medical Research Council and since 2013 at Imperial College London. He has been elected into the Royal Society of Biology, been awarded the Wellcome Trust Investigator Award and serves on the Scientific Evaluation Panel (H2020, ANR) and editorial boards of several biochemical journals. The objective of the Speck laboratory is to discover new mechanisms in the initiation and elongation of DNA replication and to understand the function of replication factors in hetero-chromatin formation, which has relevance for genomic stability, epigenetic memory & gene regulation, development and aging. The laboratory employs biochemical, genetic, cryo-electron microscopy, chemical-biology and synthetic biology approaches.

EDUCATION AND ACADEMIC POSITIONS

2016 – present	**Imperial College London**, UK Professor in Genome Biochemistry & Molecular Biology
2015 – present	**Wellcome Trust Investigator**, UK
2015 – 2016	**Imperial College London**, UK Reader in Genome Biochemistry & Molecular Biology
2013 – 2015	**Imperial College London**, UK Lecturer
2006 – 2013	**MRC Clinical Science Centre**, UK Group Leader
2000 – 2006	**Cold Spring Harbor Laboratory**, USA Leukemia & Lymphoma Society Postdoctoral Fellow (Advisor: Dr. Bruce Stillman)
1997 - 2000	**Max-Planck-Institute of Molecular Genetics**, Germany DPhil, Biochemistry (Advisor: Prof. Dr. Walter Messer)
1995 - 1997	**Freie Universität Berlin**, Germany Master Degree, Biochemistry
1995 - 1997	**University of Applied Science Berlin**, Germany Bachelor of Science, Biotechnology

SELECTED HONORS AND AWARDS / EXTERNAL COMMITTEES

2017	Member of Wellcome Trust LonCEN Cryo-EM consortium (ICL, ICR, QMU, KCL)
2016	Scientific evaluation panel member: Horizon 2020-MSCA-IF-2016- LIF
2016	Scientific evaluation panel member: French National Research Agency (ANR)
2015	Wellcome Trust Investigator Award
2015	Elected Fellow of the Royal Society of Biology
2015 - present	Biochemical Journal (Editorial Advisory Panel Member)
2015 - present	Journal of Genetics and Genome Research (Editorial Board Member)
2013 - present	Chair of the departmental Athena SWAN Committee – Bronze Award 2014
2014 - present	Frontiers in Bioscience (Editorial Board Member)
2013 - present	Microbial Cell (Editorial Board Member)
2007 - present	Grant reviewer for >15 scientific grant-awarding bodies and funding bodies across the UK, America, Europe and Asia including MRC, Royal Society UK, CRUK, HFSP, Wellcome Trust, BBSRC, French National Cancer Institute (INCa), Research Grant Council Hong Kong, Fondation pour la Recherche Médicale (FMR) France, NSF - USA
2004 - present	Regular journal reviewer for over 20 different international life science journals including Nature, NSMB, NCB, Nature Com, Mol Cell, Cell Reports, Gen & Dev, EMBO J, PNAS
2001 - 2004	The Leukemia & Lymphoma Society Postdoctoral Fellowship
1997 - 2000	Max-Planck Society PhD Fellowship

SELECTED GRANTS (TOTAL FUNDING AWARDED: £ 7.808.039)

2017 - 2022	Wellcome Trust Cryo-Electron Microscopy Equipment Award - £3,000,000 (Co-I)
2017 - 2020	EPSRC funded student - £130,000 (PI)
2015 - 2020	Wellcome Trust Investigator Award - £1.676.296 (PI)
2015 - 2018	BBSRC project grant - £406.505 (PI)
2014 - 2017	BBSRC project grant - £393.006 (PI)
2014 - 2018	MRC funded PhD student £122.500 (PI)
2014 - 2017	EPSRC funded studentship £96.000 (Co-PI)
2011 - 2016	MRC funding - Program support £879.500 (PI)
2010 - 2014	MRC funded PhD student £118.500 (PI)
2008 - 2012	MRC funded PhD student £117.000 (PI)
2007 - 2011	MRC funded PhD student £115,000 (PI)
2006 - 2010	MRC funding - Program support - £787.500 (PI)

RESEARCH GROUP TEACHING AND TRAINING

2016	Current group size: 11 (7 postdoctoral fellows, 3 PhD students, 1 technician).
2014 – 2015	Imperial College Educational Program for Lecturers
2014-	Lecturing - MSc Molecular Sciences
2014-	Lecturing - MRes Cancer Biology
2009-	Lecturing for MRC-CSC International PhD Program *Highly rated lecturer* (CSC students 2011/2012 questionnaire)
2009-	Member of the Postgraduate Training and Education Committee
2008-	Internal / external examiner of 8 PhD theses in UK / Italy / Germany
2007-	Supervision of 5 PhD students / 2 graduated (2011 / 2014)
2007-	Supervision of 10 Bachelor, Master and MRes students (Germany / UK)
2006-	Supervision of 8 Postdoctoral fellows (with 3-11 publications)
2006-	Mentor of >10 PhD students
2006 – 2009	Lecturing for the MRC MRes program

GRANTS OBTAINED BY GROUP MEMBERS (TOTAL FUNDING AWARDED: £ 306.000)

Max Reuter	DFG Postdoctoral Fellowship (2016-2018) - £72.000
Katalin Kondas	Jackson-Daphne-Trust (2016-2018) - £ 48.000
Alice Roedel	Erasmus student Fellowship (2014-2015) - £3.500
Carmen Herrera	MRC Millennium Fellowship (2012-2013) - £40.000
Stefan Samel	DFG Postdoctoral Fellowship (2011-2013) - £65.000
Christian Winkler	Erasmus student Fellowship (2012) - £2.500
Anne Musahl	Erasmus student Fellowship (2009) - £2.000
Nancy Stanslowsky	Erasmus student Fellowship (2009) - £2.000
Stefan Uhle	Marie Curie Intra-European Fellowship (2006-2007) - £70.000

INVITED LECTURES

2016 41st FEBS congress Kusadasi / Ephesus, Turkey (Invited speaker and Chair)
2015 Cold Spring Harbor DNA replication meeting – (Invited speaker and Chair)
2015 German Cancer Research Center (DKFZ), Heidelberg, Germany (Invited talk)
2015 Sincrotrone Trieste SCpA, Italy (Invited talk)
2015 University of Geneva, Switzerland (Invited talk)
2015 University of Jena, Germany (Invited talk)
2014 3R Conference Gotemba Japan (Invited speaker)
2014 Oxford University (Invited talk)
2014 Warwick University (Invited talk)
2014 Wellcome Trust Conference Chromatin, Cambridge (Selected speaker)
2014 CNIO Madrid, Spain (Invited talk)
2014 Birmingham University (Invited talk)

PUBLICATIONS

In total 37 publications, including 27 journal papers, 3 book chapters and 7 reviews. Five publications with >100 citations, h-index= 22, >2100 citations (Google Scholar). Total IF= >304. In the last five years I have published 20 articles.

PAPERS PUBLSIHED SINCE ESTABLISHMENT OF THE DNA REPLICATION GROUP IN 2006

25. Yuan Z*, Riera A*, Bai L*, Sun J*, Nandi S, Spanos C, Chen ZA, Barbon M, Rappsilber J#, Stillman B#, **Speck C#** and Li H# (**2017**) Structural basis of MCM2-7 replicative helicase loading by ORC-Cdc6 and Cdt1; **Nature Structure & Molecular Biology**, AOP– **IF 13.3**
24. Tognetti. S, **Speck, C** (**2016**); Replicating repetitive DNA. **Nature Cell Biology** 18, 593-594. – **IF 19.7**
23. **Speck, C** (**2016**); Exceeding the limits – Cdc45 overexpression turns bad. **Cell Cycle** (in press). – **IF 5.3**
22. Herrera MC*, Tognetti S*, Riera A, Zech J, Clarke P, Fernández-Cid A, **Speck C** (**2015**); A reconstituted system reveals how activating and inhibitory interactions control DDK dependent assembly of the eukaryotic replicative helicase; **Nucleic Acids Research,** Sep 3. **- IF 9.1** * Shared first authorship
21. Chang F, Riera A, Evrin C, Sun J, Li H, **Speck C***, Weinreich M* (**2015**); Cdc6 ATPase activity disengages Cdc6 from the pre-replicative complex to promote DNA replication; **eLife,** Aug 25;4**. - IF 9.3** *Corresponding author
20. Sun J, Yuan, Z, Stillman, B*, **Speck, C*** and Li, H* (**2015**); Structure and function studies of replication initiation factors; The Initiation of DNA Replication in Eukaryotes; Springer Press - **book chapter -***Corresponding author
19. Riera A and **Speck C** (**2015**); Licensing of replication origins; The Initiation of DNA Replication in Eukaryotes; Springer Press - **book chapter**
18. Riera A and **Speck C** (**2015**); MCM2-7 - Opening the gate to DNA Replication; **Cell Cycle,** 14(1):6-8 **- IF 5.3 – review**
17. Silva N, Ferrandiz N, Barroso C, Tognetti S, Lightfoot J, Telecan O, Encheva V, Faull P, Hanni S, Furger A, Snidjers B, **Speck C** and Martinez-Perez E (**2014**); The fidelity of synaptonemal complex assembly is regulated by a signaling mechanism that controls early meiotic progression; **Developmental Cell,** Nov 24;31(4):503-11 - **IF 10.4**
16. Sun J*, Fernandez-Cid A*, Riera A*, Tognetti S, Yuan Z, Stillman B#, **Speck C#**, Li H# (**2014**); Structural and mechanistic insights into Mcm2-7 double-hexamer assembly and function; **Genes & Development**, Oct 15;28(20):2291-303 - **IF 12.6** * Shared first authorship # Corresponding author
15. Tognetti S, Riera A and **Speck C (2014);** Switch on the engine – how the eukaryotic replicative MCM2-7 helicase becomes activated; **Chromosoma,** Oct 12- **IF 3.3 - review**
14. Samel AS, Fernández-Cid A, Sun J, Riera A, Tognetti S, Herrera MC, Li H, **Speck C** (**2014**); A unique DNA entry gate for regulated loading of the eukaryotic replicative helicase onto DNA; **Genes & Development**, Aug 1;28(15):1653-66 - **IF 12.6**
13. Riera A, Tognetti S and **Speck C** (**2014**); Helicase loading: How to build a MCM2-7 double-hexamer; **Seminars in Cellular and Developmental Biology**, Jun;30:104-9 - **IF 6.2 – review**
12. Evrin C, Fernández-Cid A, Riera A, Zech J, Clarke P, Herrera MC, Tognetti S, Lurz R, **Speck C**. (**2014**); The ORC/Cdc6/MCM2-7 complex facilitates MCM2-7 dimerisation during pre-replicative complex formation; **Nucleic Acids Research**, Feb 1;42(4):2257-69 - **IF 9.1**
11. Riera A, Li H*, **Speck C*** (**2013**); Seeing is believing – the MCM2-7 helicase trapped in complex with its DNA loader**; Cell Cycle**, Aug 21;12(18).- **IF 5.3 – review** *Corresponding author
10. Sun J*, Evrin C*, Samel S, Fernández-Cid A, Riera A, Kawakami H, Stillman B#, **Speck C#**, Li H# ; Cryo-EM structure of a helicase loading intermediate containing ORC-Cdc6-Cdt1-MCM2-7 bound to DNA (**2013**); **Nature Structure & Molecular Biology**, August 5, (20), 944–951 – **IF 12.7** # Corresponding author
9. Fernández-Cid A, Riera A, Tognetti S, Herrera MC, Samel S, Evrin C, Winkler C, Gardenal E, Uhle S, **Speck C**. (**2013**); An ORC/Cdc6/MCM2-7 complex is formed in a multistep reaction to serve as a platform for MCM2-7 double-hexamer formation; **Molecular Cell**, Volume 50, Issue 4, 577-588, 18 April - **IF 15.3**
8. Riera A*, Fernández-Cid A*, **Speck C** (**2013**); The ORC/Cdc6/MCM2-7 complex, a new power player for regulated helicase loading; **Cell Cycle**, Jun 24;12(14) - **IF 5.3 – review** *Shared first authorship
7. Evrin C, Fernández-Cid A, Zech J, Herrera MC, Riera A, Clarke P, Brill S, Lurz R, **Speck C**. (**2012**); In the absence of ATPase activity, pre-RC formation is blocked prior to MCM2-7 hexamer dimerization. **Nucleic Acids Research**, Mar 1;41(5):3162-72 - **IF 9.1**
6. Sun J, Kawakami H, Zech J, **Speck C**, Stillman B, Li H. (**2012**); Cdc6-Induced Conformational Changes in ORC Bound to Origin DNA Revealed by Cryo-Electron Microscopy. **Structure** Mar 7;20(3):534-44. – **IF 6.3**
5. Chabes A, **Speck C**, Johansson E (**2011**); A top-down view on DNA replication and recombination from 9,000 feet above sea level. **Genome Biology**: Biology for the post-genomic era 27 Apr – **IF 9.0 – review**
4. Evrin C, Clarke P, Zech J, Lurz R, Sun J, Uhle S, Li H, Stillman B, **Speck C** (**2009**); A double-hexameric MCM2-7 complex is loaded onto origin DNA during licensing of eukaryotic DNA replication.**Proc Natl Acad Sci U S A**. Dec 1;106(48):20240-5 – **IF 10.2**

3. Chen Z, **Speck C***, Wendel P, Tang C, Stillman B, Li H (**2008**); The architecture of the DNA replication origin recognition complex in Saccharomyces cerevisiae. **Proc Natl Acad Sci U S A**. Jul 29;105(30):10326-31. **IF 10.2** *shared first author
2. **Speck C**, Stillman B (**2007**); Cdc6 ATPase activity regulates ORC-Cdc6 stability and the selection of specific DNA sequences as origins of DNA replication.**J Biol Chem**. Apr 20;282(16):11705-14. – **IF 4.8**
1. Majka J, **Speck C** (**2006**); Analysis of protein — DNA interactions using surface plasmon resonance. **Adv Biochem Eng Biotechnol**. 104:13-36. – **IF 4.3 Methods**