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Curriculum vitae

since 2020	Deputy Speaker, Program-Oriented Funding on Systems-wide and Cardiovascular Disease of the Helmholtz Association, MDC, Berlin, Germany
since 2019	Deputy Scientific Director, Medical Systems Biology research area, MDC, Berlin, Germany
since 2013	Professor in Epigenetic Regulation and Genome Architecture (W3), Department of Biology, Humboldt University of Berlin, Germany.
since 2013	MDC Programme Leader (Tenured), Epigenetic Regulation and Genome Architecture group, Berlin Institute for Medical Systems Biology, MDC, Berlin, Germany.
2012 - 2015	Professor in Cell Biology, Inst. Clinical Sciences, Imperial College London, UK.
2012	Chair, Integrative Biology Section, MRC-LMS, London, UK.
2011 - 2012	Honorary Professor in Cell Biology, Div. Clinical Sciences, Imperial College London,UK
2010 - 2012	Joint Head, Molecular Sciences, Inst. Clinical Sciences, Imperial College London, UK.
2010 - 2011	Deputy Chair, Epigenetics Section, MRC-LMS, London, UK.
2008 - 2013	MRC Programme Leader (Tenured), Genome Function group, MRC-LMS, London, UK.
2007 - 2011	Honorary Reader in Cell Biology, Div. Clinical Sciences, Imperial College London, UK
2003	Visiting scientist, Duke University, Durham, NC, USA. (with Prof. Arno Greenleaf)
2002 - 2008	MRC Programme Leader (Tenure-Track), Nuclear Organisation group, MRC-LMS, UK.
2002 - 2007	Honorary Senior Lecturer, Division of Clinical Sciences, Imperial College London, UK 1997
2000 - 2002	Group Head (Royal Society Dorothy Hodgkin Fellow), Nuclear Organisation group, MRC London Institute for Medical Sciences (MRC-LMS), London, UK.
1998 - 2002	Royal Society Dorothy Hodgkin Fellow, Sir William Dunn Sch. Pathology, Univ. Oxford, UK.
1997 - 2000	Hayward Junior Research Fellow, Oriel College, University of Oxford, UK.

.Research fields

Our group works on epigenetic regulation and 3D genome architecture in embryonic stem cells, neuronal precursor cells and neurons, on the following major topics:

- Gene regulation and 3D genome architecture
- Multiome single-cell technologies for spatial transcriptomics, proteomics and 3D genomics

Activities in the scientific community, honors, awards

since 2021	Steering committee co-chair, NIH 4D-Nucleome consortium, US.
since 2020	Member, The Wellcome Trust, Mol. Basis Cell Function Expert Review Group, UK.
since 2020	Member, Helmholtz Association Think Tank.
since 200	Editorial board of 'Cell' and 'Developmental Cell', Cell Press.
since 2019	Elected member, DFG Review board Biology and Medicine, Cell Biol. (201-03).
since 2019	Co-coordinator, DFG Priority Program SPP2202.
since 2019	Strategy Advisory Board, Institute of Biology of the ENS (IBENS), Paris, France.
since 2018	Strategy Advisory Board, MRC Human Genetics Unit, Univ. Edinburgh, Edinburgh, UK.
since 2015	Editor, and Senior academic editor, 'Journal Cell Biology', Rockefeller University Press.
2019 - 2024	NeuroCure Cluster of Excellence, DFG, Berlin, Germany. (member)
2019 - 2022	Vice chair, COST ACTION on 'International Nucleome Consortium' (CA18127)
2019	Strategy Advisory Board, VIB-KU Leuven Center, BDR, Leuven, Belgium.
2018	Elected EMBO member.
2013 - 2018	Helmholtz Distinguished Professorship, Helmholtz Association, DE.
2007	Robert Feulgen Prize, Society for Histochemistry.

Selected publications

Winick-Ng W*, Kukalev A, Harabula I, Zea Redondo L, Szabo D, Meijer M, Serebreni L, Zhang Y, Bianco S, Chiariello AM, Irastorza Azcarate I, Thieme C, Sparks TM, Carvalho S, Fiorillo L, Musella F, Irani E, Torlai Triglia E, Kolodziejczyk AA, Abentung A, Apostolova A, Paul EJ, Franke V, Kempfer R, Akalin A, Teichmann S, Dechant G, Ungless MA, Nicodemi M, Welch L, Castelo-Branco G, Pombo A.* Cell-type specialization in the brain is encoded by specific long-range chromatin topologies. Nature 2021 | *corresponding authors

Harabula I, Pombo A. The dynamics of chromatin architecture in brain development and function. Curr. Op. Genet. Dev. 2021; 67:84-93.

Markowski J, Kempfer R, Kukalev A, Irastorza-Azcarate I, Loof G, Kehr B, Pombo A, Rahmann S, Schwarz RF. GAMIBHEAR: whole-genome haplotype reconstruction from Genome Architecture Mapping data. Bioinformatics 2021; online 10.1093/bioinformatics/btab238.

Fiorillo L, Musella F, Conte M, Kempfer R, Chiariello AM, Bianco S, Kukalev A, Irastorza Azcarate I, Esposito A, Abraham A, Prisco A, Pombo A, Nicodemi M. Comparison of the Hi-C, GAM and SPRITE methods by use of polymer models of chromatin. Nature Methods 2021; 18:482-490.

Kempfer R, Pombo A. Methods for mapping 3D chromosome architecture. Nature Reviews in Genetics 2020; 21:207-226.

Skourti-Stathaki N*, Torlai Triglia E, Warburton M, Voigt P, Bird A, Pombo A.* R-loops enhance Polycomb repression at a subset of developmental regulator genes. Molecular Cell 2019; 73:1–16. | *corresponding authors

Ferrai C, Torlai Triglia E, Risner-Janiczek JR, Rito T, Rackham OJ, de Santiago I, Kukalev A, Nicodemi M, Akalin A, Li M, Ungless MA*, Pombo A*. RNA polymerase II primes Polycomb-repressed developmental genes throughout terminal neuronal differentiation. Mol Syst Biol 2017; 13:946 | *corresponding authors

Barbieri M, Xie SQ, Torlai Triglia E, Chiariello AM, Bianco S, de Santiago I, Branco MR, Rueda D, Nicodemi M*, Pombo A*. Active and poised promoter states drive folding of the extended HoxB locus in mouse embryonic stem cells. Nat Struct Mol Biol 2017; 24:515-524 | *corresponding authors

Beagrie RA, Scialdone A, Schueler M, Kraemer DC, Chotalia M, Xie SQ, Barbieri M, de Santiago I, Lavitas LM, Branco MR, Fraser J, Dostie J, Game L, Dillon N, Edwards PA, Nicodemi M*, Pombo A*. Complex multi-enhancer contacts captured by genome architecture mapping. Nature 2017; 543:519-524 | *corresponding authors

Fraser J, Ferrai C, Chiariello AM, Schueler M, Rito T, Laudanno G, Barbieri M, Moore BL, Kraemer DC, Aitken S, Xie SQ, Morris KJ, Itoh M, Kawaji H, Jaeger I, Hayashizaki Y, Carninci P, Forrest AR, the FANTOM Consortium, Semple CA*, Dostie J*, Pombo A*, Nicodemi M.* Hierarchical folding and reorganization of chromosomes are linked to transcriptional changes in cellular differentiation. Mol Syst Biol 2015; 11:852 | *corresponding authors