

ADAM CRIBBS

I lead a Computational biology group with a broad interest in systems biology, immunology and epigenetics. My group is also heavily focused on developing novel multiplexed single-cell technology. Using this technology, our goal is to understand how cellular heterogeneity encodes epigenetic function and regulation in complex biological systems.

I lead a number of single-cell projects, of which the Tendon Seed Network, part of the Human Cell Atlas (HCA), is the largest. The aim of the Tendon Seed Network is to develop clinical, biological and computational single-cell sequencing workflows to investigate the cell composition of tendon. Specifically, using spatial transcriptomics, imaging and single-cell nuclear RNA-seq we are building the worlds first map of the healthy Human tendon. This project is one of only two HCA initiatives established within the University of Oxford, and the only UK funded Chan Zuckerberg Initiative (CZI) funded scheme.





My background is as a molecular immunologist, having completed a Ph.D. at Imperial College London in May 2013. Following a brief wet-lab postdoctoral position within the University of Oxford, I undertook a highly competitive 3 year MRC Fellowship in Computational Biology (at the Computational Genomics and Training Centre (CGAT)), also at the University of Oxford.

As a result of my extensive computational training at CGAT, I have developed a number of core competencies in statistics, mathematics and software development, enabling the difficult analysis and interpretation of next-generation sequencing data. Following the completion of my fellowship I was appointed group leader in systems biology at the Botnar research Centre, University of Oxford.



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CONTACT

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DISCLAIMER

The source code for this CV is available on [github](#).
Last updated on 2020-03-18.

EDUCATION/EMPLOYMENT

present
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2018

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Group Leader in Systems Biology

University of Oxford

Botnar Research Centre

- Managing a team of 2 computational postdoctoral researchers and supervising two Dphil students

2018
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2015

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MRC Career Development Fellowship in Computational Biology

University of Oxford

- Development of computational biology skills for next-generation sequencing and big data analysis.
- Collaborative projects with researchers throughout the University of Oxford.

2018
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2016

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Junior Research Fellowship (JRF)

University of Oxford

Campion hall

- Provided financial support to attend conferences and purchase training resources.
- Have developed collaborative links in ethical studies that has resulted in a publication: “Ethical considerations regarding genome editing and its inheritance”.

2015
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2013

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Postdoctoral Scientist in Immunology & Epigenetics

University of Oxford

Botnar Research Centre

- Investigating the epigenetics of NK cells and T cells in rheumatoid arthritis
- Supervised by Professor Sir Marc Feldmann and Professor Udo Oppermann

2013
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2009

- **PhD in Molecular T Cell Immunology**
Imperial College London  Kennedy Institute of Rheumatology
 - Thesis: The molecular mechsniism of defective regulatory T cell function in Rheumatoid Arthritis
 - Supported by a highly competitive studentship from the Kennedy Arthritis Trust.




FUNDING

2022
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2019

- **The Tendon Seed Network (Part of the Human Cell Atlas) - £1,500,000**
Co-applicant  ChanZuckerberg Initiative

2022
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2019

- **Understanding the epigenetic mechanisms of chemotherapy resistance in medulloblastoma - £ 111,000**
Oxford lead  The Royal Society


2021
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2020

- **Advanced Oligonucleotide Capture Beads - £369,362**
Co-applicant  UK Innovation

2021
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2019

- **Therapeutic targeting and understanding of oncogenic driver networks in chordoma**
Lead  BCRT

2020
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2019

- **Investigating epigenetic heterogeneity using single cell RNA-seq in multiple myeloma - £15,000**
Lead  CRUK Oxford Development Fund (AstraZeneca supported)

2020
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2019

- **Transcriptional development of human primary osteocytes in a 3D bone organ - £25,382**
Co-applicant  Organ-on-a-chip



PATENTS

2018

- **Biomarkers and their uses thereof in diagnosing pre-eclampsia**
 - Application number GB1806042.6

2014

- **The diagnosis of rheumatoid arthritis using DNA methylation**
 - Application number GB1400248.9
 - Sole inventor
- **Multiplexed single-cell droplet based technolgies**
 - In progress. Patent being handled by JA Kemp



PUBLICATIONS

2020

Histone H3K27me3 demethylases regulate human Th17 cell development and effector functions by impacting on metabolism

Adam P Cribbs, Stefan Terlecki-Zaniewicz, Martin Philpott, Jeroen Baardman, David Ahern, Morten Lindow, Susanna Obad, Henrik Oerum, Brant Sampey, Palwinder K Mander, Henry Penn, Paul Wordsworth, Paul Bowness, Menno de Winther, Rab K Prinjha, Marc Feldmann and Udo Oppermann. PNAS

2020

An ontogenetic switch drives the positive and negative selection of B cells

Xijin Xu, Mukta Deobagkar-Lele, Katherine R Bull, Tanya L: Cockford, Adam J Mead, Adam P Cribbs, David Sims, Consuelo Anzilotti and Richard Cornall. PNAS

2020

Mass cytometry analysis reveals a distinct immune environment in peritoneal fluid in endometriosis: a characterisation study

Guo M, Bafligil C, Tapmeier T, Manek S, Shang C, Martinez F, Schmidt N, Obendorf M, Hess-Stumpp H, Zollner T, Kennedy S, Becker C, Zondervan K, Cribbs AP* and Oppermann U. BMC Medicine. *Senior corresponding author

2019

A Chemical Probe for Tudor Domain Protein Spindlin1 to Investigate Chromatin Function

Vincent Fagan, Catrine Johansson, Carina Gileadi, Octovia Monteiro, James E Dunford, Reshma Nibhani, Martin Philpott, Jessica Malzahn, Graham Wells, Ruth Faram, Adam P C ribbs, Nadia Halidi, Fengling Li, Irene Chau, Holger Greschnik, Sirkannathasan Velupillai, Adellah Allali-Hassani, James Bennett, Thomas Christott, Charline Giroud, Andrew Lewis, Kilian V M Huber, Nick Athanasou, Chas Bountra, Manfred Jung, Roland Schule, Masoud Vedadi, Cheryl Arrowsmith, Yan Xiong, Jian Jin, Oleg Fedorov, Gillian Farnie, Paul E Brennan and Udo Oppermann. J Med Chem

2019

Maternal circulating syncytiotrophoblast-derived extracellular vesicles contain biologically active 5'-tRNA halves

William R Cooke, Adam P Cribbs, Wei Zhang, Neva Kandzija, Carolina Motta-Mejia, Eszter Dombi, Rannya Ria Ana, Sofia Cerdeira, Christopher Redman and Manu Vatish. Biochem Biophys Res Commun

2019

CGAT-core, a python framework for building scalable, reproducible computational biology workflows.

Adam P. Cribbs, Sebastian Luna-Valero, Charlotte George, Ian M. Sudbery, Antonio J. Berlanga-Taylor, Stephen N. Sansom, Tom Smith, Nicholas E. Ilott, Jethro Johnson, Jakub Scaber, Katherine Brown, David Sims, Andreas Heger. F1000 Research

2019

Bromodomain inhibition of the coactivators CBP/EP300 facilitates cellular reprogramming.

Ayyub Ebrahimi, Kenan Sevin , Glben Grhan Sevin , Adam Cribbs , Martin Philpott , Frat Uyulur , Tunc Morova , James Dunford , Sencer Gklemmez , _ule Ar , Udo Oppermann. Nature Chemical Biology

2019

●

Human immunodeficiency reveals the Zn²⁺-dependence of B cell development

Consuelo Anzilotti , David Swan , Bertrand Boisson , Mukta Deobagkar-Lele , Pauline Chabosseau , Karin Engelhardt , Xijin Xu , Katherine Bull , Eleanor Cawthorne , Adam Cribbs , Ms. Tanya Crockford , Tarana Dang , Amy Fearn , Emma Fenech , Sarah de Jong , Dr. Cindy Ma , David Sims , Yaobo Xu , Andrew Cant, Gary Kleiner , T Leahy , M de la Morena , Jennifer Puck , Ralph Shapiro , Mirjam van der Burg , John Christianson , Benjamin Davies , John McGrath , Stefan Przyborski , Guy Rutter , Mauro Santibanez Koref , Prof. Stuart Tangye , Andreas Werner , Jean-Laurent Casanova , Richard Cornall , Mary Ellen Conley. Nature Immunology

2018

●

Design and characterisation of covalent inhibitors of KDM5.

Saleta Vazquez-Rodriguez; Miranda Wright; Catherine M. Rogers; Adam Cribbs; Srikannathasan Velupillai; Martin Philpott; Henry Lee; James E Dunford; Kilian V. M. Huber; Mathew B. Robers; James D. Vasta; Marie Laetitia Thezenas; Sarah Bonham; Benedikt Kessler; James Bennett; Oleg Fedorov; Florence Raynaud; Adam Donovan; Julian Blagg; Vassilios Bavetsias; Udo Oppermann; Akane Kawamura; Paul Brennan. Angewandte Chemie

2018

●

Invasive Nontyphoidal salmonella exploits divergent immune evasion strategies in infected and bystander dendritic cells

Anna Aulicino, Kevin Rue-Albrecht, Lorena Preciado-Llanes, Giorgio Napolitani, Neil Ashley, Tim Ambrose, Adam Cribbs, Melita Gordon, David Sims, Alison Simmons. Nature Immunology

2017

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Ethical considerations regarding genome editing and its inheritance

Adam P Cribbs and Sumeth Perera

2016

●

Production and concentration of lentivirus for transduction of primary T cells

Alan Kennedy and Adam P Cribbs. Lentiviral vectors and exosomes as gene and protein delivery tools. Springer

2015

●

The role of kynuernine pathway in inflammatory disease.

Adam P cribbs and Richard Williams. Springer

2015

●

Indoleamine 2,3-dioxygenase-1 is protective in atherosclerosis and its metabolites provide new opportunities for drug development

Jennifer E Cole, Nagore Astola, Adam P Cribbs, Micheal E Goddard, Inhye Park, Patricia Green, Alun H Davies, Richard O Williams, Marc Feldmann and Claudia Monaco. PNAS

2015

●

Understanding the role of DNA methylation in rheumatoid arthritis - therapeutic and diagnostic implications

Adam P cribbs, Marc Feldmann and Udo Oppermann. Therapeutic advances in musculoskeletal diseases

2015

●

Methotrexate restores regulatory T cell function through demethylation of the foxp3 upstream enhancer in patients with rheumatoid arthritis.

Adam P Cribbs, Alan Kennedy, Henry Penn, Parisa Amjadi, Patricia Green, Khaja Syed, Bernard Gregory Fionula M. Brennan and Richard O. Williams. Arthritis & Rheumatism

2014

●

Hypomethylation of an upstream enhancer in the Foxp3 locus correlates with elevated gene expression in human regulatory T cells

Alan Kennedy, Emily M. Schmidt, Adam P. Cribbs, Henry Penn, Parisa Amjadi, Khaja Syed, Jordan E. Read, Patricia Green, Bernard Gregory and Fionula M. Brennan. European Journal of Immunology

2014

●

Defective regulatory T cells in rheumatoid arthritis fail to activate IDO due to methylation of an NFAT binding site within the CTLA-4 promoter

Adam P Cribbs, Alan Kennedy, Jordan E. Read, Parisa Amjadi, Patricia Green, Henry Penn, Khaja Syed, Szymon W. Manka, Bernard Gregory Fionula M. Brennan and Richard O. Williams. Arthritis & Rheumatology. Research highlight in Nature Reviews Rheumatology

2013

●

Simplified production and concentration of lentiviral vectors to achieve high transduction in primary human T cells.

Adam P Cribbs, Alan Kennedy, Bernard Gregory and Fionula M Brennan. BMC Biotechnology

2011

●

Resistance to regulatory T cell-mediated suppression in rheumatoid arthritis can be bypassed by ectopic foxp3 expression in pathogenic synovial cells.

Paul A Beavis, Bernard Gregory, Patricia Green, Adam P Cribbs, Alan Kennedy, Parisa Amjadi, Andrew C Palfreeman, Marc Feldmann and Fionula Brennan. PNAS