JAMES CRANLEY

BM BCh, MA, MRCP

I am an **academic cardiology trainee**. My clinical interest lies at the intersection of **inherited cardiac conditions** and **electrophysiology**. I am currently pursuing a PhD fellowship at the Sanger Institute in the lab of Dr Sarah Teichmann[1], using using cutting-edge **single-cell and spatial transcriptomic** methods to create **a next-generation cell atlas of the human heart**[2].

EDUCATION

2024 | 2021 — **Sanger Institute (Cambridge University)**
PhD at Teichmann Lab
Cambridge, UK

2019 — **Cambridge University**
PG Certificate in Medical Education
Cambridge, UK

2018 | 2015 — **Academic Clinical Fellowship in Cardiology**
National Instiute for Health Research (NIHR)
3 month research fellowships in:

- Huang Lab[3], Cambridge Unversity
- MacRae Lab[4], Harvard Unversity
- Munroe Lab[5], Queen Mary University of London

2016 — **Membership of the Royal College of Physicians**
Royal College of Physicians
London, UK

2013 | 2007 — **Oxford Medical School**
BM BCh (Distinction)
Intercalated BA in Medical Science (1st class)
Academic (“Old Members’”) scholarship
Oxford, UK

2007 | 2002 — **Eton College**
Academic (“Oppidan”) scholarship
7 ’A’s (Maths, Further Maths, Chemistry, Biology, French, Latin, Greek)
Windsor, UK


James Cranley

View my CV online with links here

CONTACT

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jamescranley
james-cranley
james-cranley.github.io
james-cranley

CONTENTS

PERSONAL DETAILS

Born: 1989
Nationality: British
Contact me for details & referees

Last updated on 2024-03-19.

CLINICAL EXPERIENCE

Dec 2020 | 2017

Specialty Training, Cardiology (EP and ICC)

East of England deanery

- ST6: Royal Papworth Hospital (OOPR Dec 2020)
- ST5: Norfolk & Norwich Hospital
- ST3 & ST4: Addenbrooke's Hospital

2017 | 2015

Core Medical Training

East of England deanery

- Papworth Hospital: Cardiology
- Hinchingbrooke Hospital: Respiratory
- Addenbrooke's Hospital: ICU

2015 | 2013

Foundation Training

North West Thames deanery

- Harefield Hospital: Cardiology
- Hillingdon Hospital: A&E
- Charing Cross Hospital: Acute Medicine

2013

Medical Elective

Mount Sinai Hospital, New York

- Cardiology Dept, Mount Sinai Hospital. Supervisor: Dr Valentin Fuster[6]

RESEARCH EXPERIENCE

2024 | 2021

Wellcome Trust PhD Fellowship

Single cell and spatial transcriptomic analysis of the adult and developing human heart. 50% wet lab genomics (single-cell and spatial transcriptomics), 50% bioinformatics (python, Bash, R).
Supervisor: Dr Sarah Teichmann FMedsci FRS (Sanger Institute)

NIHR Academic Clinical Fellowship

- 2018: Genome-wide association study into ECG trait using UK Biobank data. Supervisor: Prof Patsy Munroe (QMUL).
- 2017: Introduction to zebrafish as a model for cardiovascular disease. Supervisor: Prof Calum MacRae (Harvard University).
- 2016: A murine model of metabolic syndrome. Murine electrophysiology lab. Supervisor: Prof Chris Huang (Cambridge University).

2018 - 2016

2013

Bachelor of Science (intercalated)

Investigating the role of the neuropeptide Galanin in cardiac autonomics using a guinea pig Langendorff model.
Supervisor: Prof Neil Herring (Oxford University).

PUBLICATIONS

2023

Spatially resolved multiomics of human cardiac niches

Nature
Kazumasa Kanemaru & **James Cranley**, Daniele Muraro, Antonio M. A. Miranda, Siew Yen Ho, Anna Wilbrey-Clark, Jan Patrick Pett, Krzysztof Polanski, Laura Richardson, Monika Litvinukova, Natsuhiko Kumasaka, Yue Qin, Zuzanna Jablonska, Claudia I. Semprich, Lukas Mach, Monika Dabrowska, Nathan Richoz, Liam Bolt, Lira Mamanova, Rakeshlal Kapuge, Sam N. Barnett, Shani Perera, Carlos Talavera-López, Ilaria Mulas, Krishnaa T. Mahbubani, Liz Tuck, Lu Wang, Margaret M. Huang, Martin Prete, Sophie Pritchard, John Dark, Kourosh Saeb-Parsy, Minal Patel, Menna R. Clatworthy, Norbert Hübner, Rasheda A. Chowdhury, Michela Noseda, Sarah A. Teichmann

2023

Multiomics reveal developmental dynamics of the human heart

Nature, under review **James Cranley**, Kanemaru K, Bayraktar S, KnightSchrijver V, Pett J, Polanski K, Dabrowska M, Mulas I, Richardson L, Semprich C, Kapuge R, Perera S, He X, Ho S, Yayon N, Tuck L, Roberts K, Palmer J, Davaapil H, Gambardella L, Patel M, Tyser R, Sinha S, Teichmann SA

2023

High-resolution atlas of the developing human heart and the great vessels

Nature, under review Bayraktar S, **James Cranley**, Kanemaru K, KnightSchrijver V, Colzani M, Davaapil H, Lee J, Polanski K, Richardson L, Semprich C, Kapuge R, Dabrowska M, Mulas I, Perera S, Patel M, Ho S, He X, Tyser R, Gambardella L, Teichmann SA, Sinha S.

2023

Multidimensional Analysis of the Adult Human Heart in Health and Disease using Hierarchical Phase-Contrast Tomography (HiP-CT)

Radiology, under review J. Brunet, A. C. Cook, C. L. Walsh, **James Cranley**, P. Tafforeau, K. Engel, C. Berruyer, E. Burke O'Leary, A. Bellier, R. Torii, C. Werlein, D. D. Jonigk, M. Ackermann, K. Dollman, P. D. Lee

2023

CellPhoneDB v5: inferring cell-cell communication from single-cell multiomics data

Nature Protocols, under review Kevin Troulé, Robert Petryszak, Martin Prete, **James Cranley**, Alicia Harasty Zewen Kelvin Tuong, Sarah A Teichmann, Luz Garcia-Alonso, Roser Vento-Tormo

2022

A single-cell comparison of adult and fetal human epicardium defines the age-associated changes in epicardial activity

Nature Cardiovascular Research
Vincent R. Knight-Schrijver, Hongorzul Davaapil, Semih Bayraktar, Alexander D. B. Ross, Kazumasa Kanemaru, **James Cranley**, Monika Dabrowska, Minal Patel, Krzysztof Polanski, Xiaoling He, Ludovic Vallier, Sarah Teichmann, Laure Gambardella, Sanjay Sinha

2022

Single-cell transcriptomics for the assessment of cardiac disease

Nature Reviews Cardiology
Antonio M. A. Miranda, Vaibhao Janbandhu, Henrike Maatz, Kazumasa Kanemaru, **James Cranley**, Sarah A. Teichmann, Norbert Hübner, Michael D. Schneider, Richard P. Harvey, Michela Noseda

2022

Pathogenic variants damage cell composition and single cell transcription in cardiomyopathies

Science
Daniel Reichart, Eric L. Lindberg, Henrike Maatz, Antonio M. A. Miranda, Anissa Viveiros, Nikolay Shvetsov, Anna Gärtner, Emily R. Nadelmann, Michael Lee, Kazumasa Kanemaru, Jorge Ruiz-Orera, Viktoria Strohmenger, Daniel M. DeLaughter, Giannino Patone, Hao Zhang, Andrew Woehler, Christoph Lippert, Yuri Kim, Eleonora Adami, Joshua M. Gorham, Sam N. Barnett, Kemar Brown, Rachel J. Buchan, Rasheda A. Chowdhury, Chrystalla Constantinou, **James Cranley**, Leanne E. Felkin, Henrik Fox, Ahla Ghauri, Jan Gummert, Masatoshi Kanda, Ruoyan Li, Lukas Mach, Barbara McDonough, Sara Samari, Farnoush Shahriaran, Clarence Yapp, Caroline Stanasiuk, Pantazis I. Theotokis, Fabian J. Theis, Antoon van den Bogaerdt, Hiroko Wakimoto, James S. Ware, Catherine L. Worth, Paul J. R. Barton, Young-Ae Lee, Sarah A. Teichmann, Hendrik Milting, Michela Noseda, Gavin Y. Oudit, Matthias Heinig, Jonathan G. Seidman, Norbert Hubner, Christine E. Seidman

2022

Impact of COVID-19 pandemic on cardiac rhythm management services: Views from the United Kingdom.

Heart rhythm O2

Wern Yew Ding, **James Cranley**, David Begley, Archana Rao, Richard L. Snowdon, Greg Mellor, Dhiraj Gupta

2021

Identifying predictive risk factors for permanent pacemaker implantation up to 30 days post-TAVI

European Heart Journal

J Li, A Christodoulidou, **James Cranley**, F Ara, Charis Costopoulos, P Costanzo, M Osullivan, W Davies, C Densem, C A Martin

2020

Multi-ancestry GWAS of the electrocardiographic PR interval identifies 202 loci underlying cardiac conduction.

Nature communications

Ioanna Ntalla, Lu-Chen Weng, James H. Cartwright, Amelia Weber Hall, Gardar Sveinbjornsson, Nathan R. Tucker, Seung Hoan Choi, Mark D. Chaffin, Carolina Roselli, Michael R. Barnes, Borbala Mifsud, Helen R. Warren, Caroline Hayward, Jonathan Marten, **James Cranley**, Pier D. Lambiase, Michele Orini, Julia Ramirez, Stefan Van Duijvenboden, David O. Arnar, Daniel F. Gudbjartsson, Hilma Holm, Patrick Sulem, Gudmar Thorleifsson, Rosa B. Thorolfsdottir, Unnur Thorsteinsdottir, Emelia J. Benjamin, Andrew Tinker, Kari Stefansson, Patrick T. Ellinor, Yalda Jamshidi, Steven A. Lubitz, Patricia B. Munroe

2020

Pulsed Levosimendan in advanced heart failure due to congenital heart disease: a case series.

European heart journal. Case reports

James Cranley, Antonia Hardiman, Leisa J Freeman

2019

Clinical outcomes of bioresorbable vascular scaffolds implanted with routine versus selective optical coherence tomography guidance: results from a single-centre experience.

EuroIntervention

Vincent Floré, Adam J. Brown, Joel P. Giblett, Kevin Liou, **James Cranley**, Stephen P. Hoole, Nick E.J. West

2019

Catastrophic antiphospholipid syndrome causing ST-segment elevation myocardial infarction with non-obstructive coronary arteries.

BMJ case reports

James Cranley, Unni Krishnan, Katharine Tweed, Rudolf Martin Duehmke

2018

Regulatory and occupational considerations in cardiology

Medicine

James Cranley, Catriona Bhagra

2018 **Ventricular pro-arrhythmic phenotype, arrhythmic substrate, ageing and mitochondrial dysfunction in peroxisome proliferator activated receptor-γ coactivator-1β deficient (Pgc-1β$^{-/-}$) murine hearts.**

Mechanisms of ageing and development

Shiraz Ahmad, Haseeb Valli, Karan R. Chadda, **James Cranley**, Kamalan Jeevaratnam, Christopher L.-H. Huang

2018 **A New Approach to an Old Problem: One Brave Idea.**

Circulation research

James Cranley, Calum A. MacRae

2016 **TCT-405 Optical coherence tomography-guided optimal bioresorbable vascular scaffold implantation informs subsequent implantation without intravascular imaging: further evidence for a 'learning curve'?**

Journal of the American College of Cardiology

Vincent Floré, Adam Brown, **James Cranley**, Joel Giblett, Stephen Hoole, Nick West

2016 **Haemodynamic lesion significance is associated with high plaque burden but not with vulnerable plaque composition**

Journal of the American College of Cardiology

Adam J. Brown, Unni Krishnan, Joel Giblett, **James Cranley**, Martin Bennett, Nicholas West, Stephen Hoole

2016 **Hypertension (Book Chapter)**

Clinical Guide to Cardiology

James Cranley

2013 **Long-term follow-up of patients undergoing free tissue transfer to the lower limb following trauma**

European Journal of Plastic Surgery

Dipender Gill, David J. Bruce, Mark J. Ponsford, **James Cranley**, Timothy E. Goodacre

2011 **The cardiac sympathetic co-transmitter galanin reduces acetylcholine release and vagal bradycardia: implications for neural control of cardiac excitability.**

Journal of molecular and cellular cardiology

Neil Herring, **James Cranley**, Michael N. Lokale, Dan Li, Julia Shanks, Eric N. Alston, Beatrice M. Girard, Emma Carter, Rodney L. Parsons, Beth A. Habecker, David J. Paterson

2010 **Galanin reduces cardiac vagal acetylcholine release and bradycardia via a GalR1, protein kinase C dependent pathway**

The FASEB Journal

Neil Herring, **James Cranley**, Michael N Lokale, Beth Habecker, David J Paterson

PRESENTATIONS AND POSTERS

Feb. 2024 — **Oxford Nanopore Symposium**
Presentation: “What you’re missing matters, integrating short and long read RNAseq”
Oxford, UK

2023 — **SpatialBiology 2023**
Spatial Transcriptomics in Human Cell Atlasing
Online

Aug. 2023 — **European Society of Cardiology Congress**
Poster: “A spatially-resolved multiomic cell atlas reveals gene regulatory networks underlying cell specification in the developing human”
Amsterdam, NL

Jul. 2023 — **Human Cell Atlas General Meeting**
Poster: “A spatially-resolved multiomic atlas of human cardiac development”
Toronto, Canada

Apr. 2023 — **Royal Society, Hooke Symposium**
Presentation: “The adult and developing heart, one cell at a time”
London, UK

Jun. 2022 — **British Heart Foundation Symposium**
Presentation on single-cell atlasing of the heart
Cambridge, UK

Sep. 2022 — **Cambridge Alumni Festival**
Particpated in a **public engagement** event *“The Hopes and Fears Lab”* explaining genomic sciences to a lay audience
Cambridge, UK

Dec 2019 — **International Conference of Genomics**
‘KCNQ1 variants and JLNS, genotype-phenotype correlations’
York, UK

Oct. 2019 — **Heart Rhythm Congress**
‘A novel variant causing JLNS, but not LQT1’
Birmingham, UK

May. 2019 — **British Society of Cardiac Imaging**
‘Localised effusive-constrictive pericarditis - a late complication of PCI’
Cambridge, UK

May. 2014 — **Society for Cardiovascular Interventions and Angiography (SCAI)**
Risk factors for haematoma development post cardiac catheterisation.
San Diego, USA

Jun. 2014

Association of Surgeons of Great Britain and Northern Ireland (ASGBI)

'Appendicitis in women of child-bearing age: the diagnostic process in a busy London teaching hospital'

Glasgow, UK

TEACHING EXPERIENCE

current | 2022

BJCA Trainee Representative to BHRS

Committe role representing electrophysiology trainees nationally.

current | 2020

Adult Life Support Instructor

Registered provider and instructor

2021 | 2020

Cardiology Webinars

Organised and recorded a series of educational webinars for cardiology trainees, now hosted at BJCA.tv

2020 | 2017

Trainee Representative for East of England

Designed and delivered training days, created website.

2017 | 2016

Preclinical (physiology) and clinical supervisor

Gonville & Caius College, Cambridge

2015 | 2014

Harefield Medical Student Teaching Programme

Organised a fortnightly schedule for rotating medical students. Taught regularly.

2015

ECG Course - Oxford Revision Courses

Oxford Medical School

COURSES, QUALIFICATIONS AND AWARDS

- April 2021 — **Sanger - Core and Further Biostatistics Courses**
- April 2021 — **Sanger - Reproducible research course (intro to Git)**
- Jan 2021 — **Sanger - Primers for Pre-docs**
- May 2019 — **Cardiac MRI Level 1 Course (KCH)**
- April 2019 — **British Society of Echocardiography Level 1**
- 2019 — **Advanced Life Support Instructor**
- October 2018 — **ALS instructor course (QMS, Nottingham)**
- Sept 2016 — **National Pacemaker course Pacemaker programming and interrogation (Imperial College)**
- June 2016 — **National Pacemaker course Pacemaker programming and interrogation (Imperial College, Sept 2016) FICE Course Focused Echocardiography for critically ill patients (Reading Hospital)**
- February 2016 — **MRCP PACES**
- October 2015 — **IMPACT Course (Arrowe Park Hospital, Liverpool)**
- March 2015 — **MRCP Part II**
- September 2014 — **MRCP Part I**
- June 2013 — **Advanced Life Support Provider**

CLINICAL AUDIT

- 2019 — **CUH Devices Audit 2019 (NICE TA 314)**
- 2017 — **Improving CMT exposure to 2222 QIP, 2017.**
- 2016 — **Hinchingbrooke Hospital Arterial Blood Gas Audit, 2016**
- 2014 — **Harefield Hospital Haematoma post Cardiac Catheterisation Audit, 2014.**
- 2014 — **Charing Cross Acute Mastitis Pathway, 2014.**

2013 **Short & Medium term complications post implanted devices, John Radcliffe Hospital, Oxford, 2012/3.**

LINKS

1. http://www.teichlab.org/
2. https://www.heartcellatlas.org/
3. https://crukcambridgecentre.org.uk/users/clh1113207
4. https://hsci.harvard.edu/people/calum-macrae-md-phd
5. https://www.qmul.ac.uk/whri/people/academic-staff/items/munroepatricia.html
6. https://profiles.mountsinai.org/valentin-fuster