

# 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<sup>1</sup>, using cutting-edge **single-cell** and **spatial transcriptomic** methods to create a **next-generation cell atlas of the human heart**<sup>2</sup>.



## EDUCATION

2024   2021	<b>Sanger Institute (Cambridge University)</b> PhD at <a href="#">Teichmann Lab</a>	📍 Cambridge, UK
2019	<b>Cambridge University</b> PG Certificate in Medical Education	📍 Cambridge, UK
2018   2015	<b>Academic Clinical Fellowship in Cardiology</b> National Institute for Health Research (NIHR) 3 month research fellowships in: <ul style="list-style-type: none"><li>• Huang Lab<sup>3</sup>, Cambridge University</li><li>• MacRae Lab<sup>4</sup>, Harvard University</li><li>• Munroe Lab<sup>5</sup>, Queen Mary University of London</li></ul>	
2016	<b>Membership of the Royal College of Physicians</b> Royal College of Physicians	📍 London, UK
2013   2007	<b>Oxford Medical School</b> BM BCh (Distinction) Intercalated BA in Medical Science (1st class) Academic ("Old Members") scholarship	📍 Oxford, UK
2007   2002	<b>Eton College</b> Academic ("Oppidan") scholarship 7 'A's (Maths, Further Maths, Chemistry, Biology, French, Latin, Greek)	📍 Windsor, UK



View my CV online with links [here](#)

## CONTACT

✉ [jc48@sanger.ac.uk](mailto:jc48@sanger.ac.uk)  
🐦 [jamescranley](#)  
🌐 [james-cranley](#)  
🔗 [james-cranley.github.io](#)  
in [james-cranley](#)

## CONTENTS

[Education](#)  
[Research Experience](#)  
[Clinical Experience](#)  
[Publications](#)  
[Teaching Experience](#)  
[Posters and Presentations](#)  
[Courses and Qualifications](#)

## 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
- Hinchingsbrooke 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<sup>6</sup>



## 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 autonomies 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 Nosedà, 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, Yayan 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 Nosedà
- 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 Strohmer, 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 Bogaerd, Hiroko Wakimoto, James S. Ware, Catherine L. Worth, Paul J. R. Barton, Young-Ae Lee, Sarah A. Teichmann, Hendrik Milting, Michela Nosedà, 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. Snowden, 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. Thorolfssdottir, 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- $\gamma$  coactivator-1 $\beta$  deficient (Pgc-1 $\beta^{-/-}$ ) 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**  
Participated 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**

Committee 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](https://www.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>