

Emma Bell Ph.D.

POSTDOCTORAL RESEARCH FELLOW · PRINCESS MARGARET CANCER CENTRE, UHN

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Education

Imperial College London

London, UK

PH.D. REGULATION OF CELL-TYPE SPECIFIC ENHANCERS IN PLURIPOTENT STEM CELLS

2013-2017

- Supervisors: Dr. Véronique Azuara, Dr. James Flanagan, Dr. Ed Curry

Imperial College London

London, UK

M.RES. BIOMEDICAL RESEARCH (DISTINCTION)

2012-2013

- Investigating the influence of cellular context on EZH2-mediated transcriptional regulation
 - Supervisors: Dr. Ed Curry, Prof. Bob Brown
- Investigation of epigenetic effects of intragenic methylation in breast cancer
 - Supervisors: Dr. James Flanagan, Prof. Bob Brown

King's College London

London, UK

B.SC.(HONS.) BIOMEDICAL SCIENCE (FIRST-CLASS HONOURS)

2008 - 2011

- Characterisation of transcripts arising from the murine Fam13c locus
 - Supervisors: Dr. Mike Cowley, Prof. Rebecca Oakey
- Transcription of the imprinted genes Ddc_exon1a and Grb10 within the developing mouse heart
 - Supervisors: Dr. Adam Prickett, Prof. Rebecca Oakey

Professional Experience

2019 - **Bioinformatics Research Fellow**, Princess Margaret Cancer Centre, UHN

PI: Dr. Daniel De Carvalho

2017 - 2019 **Bioinformatics Research Associate**, Imperial College London

PIs: Dr. James Flanagan, Dr John Krell

2011 - 2012 **Editorial Assistant**, BioMed Central

Publications

* these authors contributed equally

PUBLISHED

Bell, E.*, Curry, E.W.*, Megchelenbrink, W.*, Jouneau, L., Brochard, V., Tomaz, R.A., Mau, K.H.T., Atlasi, Y., de Souza, R.A., Marks, H., Stunnenberg, H.G., Jouneau, A., Azuara, V. (2020). Dynamic CpG methylation delineates subregions within super-enhancers selectively decommissioned at the exit from naive pluripotency. *Nature Communications*, 11(1112), doi: 10.1038/s41467-020-14916-7.

Zhang, S., **Bell, E.**, Brown, S., Gao, Y., Kim, J., Azuara, V., Cui, W. (2019). OCT4 and PAX6 determine the dual function of SOX2 in human ESCs as a key pluripotent or neural factor. *Cell Research & Therapy*, 10(122), doi: 10.1186/s13287-019-1228-7.

Tomaz, R.A., Harman, J.L., Karimlou, D., Weavers, L., Fritsch, L., Bou-Kheir, T., **Bell, E.**, del Valle Torres, I., Niakan, K.K., Fisher, C., Joshi, O., Stunnenberg, H.G., Curry, E.W., Ait-Si-Ali, S., Jørgensen, H.F., Azuara, V. (2017). Jmjd2c facilitates the assembly of essential enhancer-protein complexes at the onset of embryonic stem cell differentiation. *Development*, 144: 567-579. doi: 10.1242/dev.142489.

Shenker, N.S., Flower, K.J., Wilhelm-Benartzi, C.S., Dai, W., **Bell, E.**, Gore, E., El Bahrawy, M., Weaver, G., Brown, R., Flanagan, J.M. (2015). Transcriptional implications of intragenic DNA methylation in the oestrogen receptor alpha gene in breast cancer cells and tissues. *BMC Cancer*, 15(337), doi: 10.1186/s12885-015-1335-5.

Curry, E.W., Green, I., Chapman-Rothe, N., Shamsaei, E., Kandil, S., Cherblanc, F.L., Payne, L., **Bell, E.**, Ganesh, T., Srimongkolpithak, N., Caron, J., Li, F., Uren, A.G., Snyder, J.P., Vedadi, M., Fuchter, M.J., Brown, R. (2015). Dual EZH2 and EHMT2

histone methyltransferase inhibition increases biological efficacy in breast cancer cells. *Clinical Epigenetics*, 7(84), doi: 10.1186/s13148-015-0118-9.

ACCEPTED FOR PUBLICATION

Bell, E.*, Yau, H.L.*, Ettayebi, I., Campos de Almeida, F., Boukhaled, G.M, Shen, S.Y., Allard, D., Morancho, B., Marhon, S.A., Ishak, C.A., Gonzaga, I., Medina, T., Singhanian, R., Chakravarthy, A., Chen, R., Mehdipour, P., Pommey, S., Klein, C., Amarante-Mendes, G., Roulois, D., Arribas, J., Stagg, J., Brooks, D.G., De Carvalho, D.D. (2021). DNA hypomethylating agents increase activation and cytolytic activity of CD8+ T-cells. *Molecular Cell*

Awards, Fellowships, & Grants

2019	Student Academic Choice Award (long-listed) , Imperial College London	
2012	Medical Research Council Doctoral Training Partnership Research Studentship , Imperial College London	£ 133,200
2011	Biomedical Science BSc Final Year Student Prize , King's College London	
2010	Summer Studentship Award , Genetics Society	£ 3,000
	Undergraduate Research Bursary (offered and declined) , Nuffield Foundation	£ 1,800

Presentations

* *presenting author*; + *mentored student*

PRESENTATIONS

2019. *Crimes against data sharing in functional genomics (abridged)*. Lightning talk: R-Ladies Toronto, Toronto, ON, Canada.
2019. *Crimes against data sharing in functional genomics*. Oral presentation: Canadian Research Software Conference, Montréal, QC, Canada.
2018. *ESRRB demarcates enhancers decommissioned during pluripotency maturation*. Invited talk: Princess Margaret Cancer Research Centre, Toronto, Canada.
2018. *Cell-type specific enhancers in mouse pluripotent stem cells*. Invited talk: Cancer Research UK Edinburgh Centre, Edinburgh, U.K..
2018. *Cell-type specific enhancers in mouse pluripotent stem cells*. Invited talk: Cancer Bioinformatics Group, King's College London.
2018. *How to approach debugging*. Oral presentation: Division of Cancer Bioinformatics Network, Imperial College London.
2015. *The role of Esrrb at tissue-specific enhancers in mouse embryonic stem cells*. Oral presentation: Work In Progress Seminar Series, Department of Surgery & Cancer, Imperial College London, London, U.K..
2014. *Transcriptional regulation by nuclear receptor co-activators in mouse embryonic stem cells*. Oral presentation: Epigenetics Group, Department of Surgery & Cancer, Imperial College London, London, U.K..

CONTRIBUTED PRESENTATIONS

- Bell, E.**, Catton, J., Desveaux, L., Whitham, L.. 2020. Acknowledging Overcoming Imposter Syndrome. Panel discussion: Women Who Lead, Toronto, ON, Canada.
- Patel, A.**, **Bell, E.**, Sutton, J., Flanagan, J.F.. 2019. Younger LINE-1s are hypomethylated in pre-diagnosis ovarian cancer leading to transcriptional deregulation of oncogenes. Poster: M.Res. Cancer Biology Poster Session, Imperial College London, London, U.K..
- Bell, E.***, Shenker, N.S., Flanagan, J.F., Brown, R.. 2013. Antisense mRNA and intragenic DNA methylation: cause or consequence?. Poster: M.Res. Biomedical Research Poster Session, Imperial College London, London, U.K..

Teaching Experience

2016 - 2018	M.Res. Cancer Biology (Cancer Informatics Stream) Demonstrator, Department of Surgery & Cancer, Imperial College London	London, U.K.
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Mentoring

- 2019 **Areeba Patel**, M.Res. Cancer Biology, Imperial College London *London, U.K.*
- 2017 **Andrew Scarborough**, B.Sc. Human and Medical Science, University of Westminster *London, U.K.*
- 2016 **Sejal Versani**, M.Res. Cancer Biology, Imperial College London *London, U.K.*

Outreach, Media, & Professional Development

SERVICE AND OUTREACH

- 2020 **Skype-A-Scientist**, Speaker
- 2019 **Skype-A-Scientist**, Speaker
- The Know Show**, Live interview *Toronto, ON, Canada*
- Science is a Drag**, Live scientific demonstrator *Toronto, ON, Canada*
- 2018 **Good days and difficult days: Imperial staff on mental health**, Recorded interview *London, U.K.*
- International Women's Day Panel, Nicholas Breakspear R.C. School**, Speaker *St. Albans, U.K.*
- 2016 **Imperial Festival, Imperial College London**, Demonstrator *London, U.K.*

MEDIA

- 2020 **The Washington Post**, Print interview
"A scientist's viral tweet called Elon Musk 'Space Karen' — as a way to defend science"
- 2019 **The Guardian**, Print interview
"The Brexitodus is under way': meet the Brits leaving the UK"
- 2018 **The National, CBC**, TV interview
"What could Brexit mean for science?"
- BBC World News, BBC**, TV interview
Comment on the Chinese Olympic Committee's decision to incorporate DNA sequencing into their athlete selection for the 2022 Winter Olympics.
- Bloomberg News, BNN Bloomberg**, Print interview
"Brexit Begins to Bite as Workers Turn to Voting With Their Feet"

DEVELOPMENT

Introduction to LGBT and Providing Culturally Competent Services, 2020. An online course created by UHN. The course covered LGBT+ myths and misconceptions, the history of LGBT+ Rights in Canada, how to discuss sexual orientation and gender identification, and how to respectfully communicate with LGBT+ people in a healthcare setting. This course improved my professional communication skills, and helped me consider sex and gender in my research.

Software Carpentry, 2018. A two day workshop hosted by the Research Computing Service, Imperial College London. We covered basic research computing skills with the Unix shell, git, and Python. This course improved my program design, version control, data management, and task automation.

Making the Most of Your Postdoc, 2018. A three day residential course hosted by the Postdoctoral and Fellows Development Centre, Imperial College London. I learned what makes a successful postdoc and developed a personalised strategy to transition to research independence.

Analysing Single-Cell Sequencing Data, 2018. A seminar I organised for the Imperial College Division of Cancer Bioinformatics Network. We learned how single-cell sequencing is conducted, biological and technical considerations in analysis, and examined a bioinformatics pipeline for single-cell RNA-seq.

Bash Shell Scripting, 2018. A workshop hosted by the Research Computing Service, Imperial College London. We covered considerations when using the command line in research and the basics of shell scripting.

Introduction to Supervising PhD Students, 2018. A course hosted by the Educational Development Unit, Imperial College London. We covered the College's research degree milestones, how to support student mental health, and how to troubleshoot common problems.