## **DR BECKY INKSTER**

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I am a neuroscientist passionate about mental health innovation. I research artificial intelligence mental healthcare, ethics and governance, digital/clinical/music-based interventions, social media data, molecular biology, neuroimaging, epidemiology, psychiatry, psychology, acoustic therapy (e.g., ultra-audible watermarking), financial health, space health, statistics, policy, public engagement and other areas to improve our understanding of mental health. I have experience developing and managing multi-million-pound research initiatives. I love engaging with youth culture, the arts and society.

# **ACADEMIC QUALIFICATIONS**

Oct 2002 – Jan 2007	DPhil Degree, Department of Psychiatry, University of Oxford, UK. Supervisor: Prof. Paul
	Harrison. Thesis title: "Investigations of gene expression in the pathogenesis of schizophrenia:
	experimental and post-mortem studies"
Sept 1998 – June 2002	BSc Degree (Honours), Specialist Psychology, University of Toronto, Canada

## **EMPLOYMENT, ROLES & AFFILIATIONS**

Aug 2021 - 2022	NIHR Artificial Intelligence in Health and Care Award (£1m), Co-Investigator
Aug 2021 - ongoing	Co-Chair, IEEE IC Program, Ethical Assurance of Data-Driven Technologies for Mental Healthcare
Aug 2021 – ongoing	Spoke, Advisor
Jan 2020 – ongoing	Arts Arkade, Chief Science Officer
July 2019 – ongoing	Finance, Health & Technology Consortium 'FinHealthTech' Consortium (FHTC), Creator
July 2019 – ongoing	Centre for Mental Health Ghana, Africa, Board of Governors (in progress)
Mar 2019 – 2022	Talklife, Clinical Advisory Board Member
Jan 2019 – ongoing	The Lancet Digital Health, International Advisory Board Member
Dec 2018 – ongoing	The Alan Turing Institute, UK, Advisor & Visiting Researcher
Feb 2017 – ongoing	Wysa, Al Mental Healthcare, Advisor
Apr 2017 – ongoing	Department of Psychiatry, University of Cambridge, UK, Honorary Research Fellow
Nov 2014 – ongoing	Wolfson College, University of Cambridge, UK, Associate
Mar 2018 – Mar 2020	Mental Health and Suicide Prevention, Facebook, USA, Global Advisor
Sept 2018 – Sept 2020	IBM Watson AI XPRIZE, USA, Lead Judge
Dec 2017 – June 2018	Legal & General, Consultant on AI & Ethics in Digital Mental Healthcare
June 2017 – May 2018	Columbia School of Social Work, Columbia University, USA, Visiting Scholar
Nov 2011 – Mar 2017	Wellcome Trust Strategic Award (£5.3m) Neuroscience in Psychiatry Network Senior Research Director, Department of Psychiatry, University of Cambridge, UK
Nov 2011 – ongoing	Hip Hop Psych, Co-Founder
Apr 2011 – Nov 2011	Department of Forensic and Neurodevelopmental Science, Institute of Psychiatry, King's College London, UK, Research Director
Sept 2008 – Apr 2011	Neuroimaging Genetics Research Associate, Imperial College London, UK
July 2006 – Sept 2008	GlaxoSmithKline Research Associate, GSK Clinical Imaging Centre, London, UK

#### **PUBLICATIONS**

### **SUBMITTED / IN PREPARATION**

Sule A, **Inkster B**. "Hip-Hop and Mental Health: Perspectives from Psychiatry, Psychology, Public Health, and Neuroscience. Book Chapter. Cambridge University Press. Submitted for publication in 2023.

Inkster B, Craigen G. Book: "The Ethics of Global Digital Mental Health". Commissioned by Springer Publisher. In prep 2024.

**Inkster B.** Editor Special Issue in Frontiers on "Cybersecurity in Digital Mental Health" alongside Editorial and paper called "Cybersecurity: A Critical Priority for Digital Mental Health". Ongoing, 2023.

**Inkster B**, Sule A, Singh M, Fancourt D, Key Changes. A proof-of-principle study evaluating the psychological and physiological impact of socially prescribed hip-hop writing and recording sessions involving mental health service users. In prep for 2024.

Liakata M, **Inkster B et al**. Book: Working title: "Language technology for mental health: methods and practices" in prep, 2024. Commissioned by World Scientific Publishing.

#### **PUBLISHED**

Inkster B, Sule A. Money, Mental Health & Hip-Hop. Oct 2023. Paperback and eBook now available.

**Inkster B**, Kadaba M, Subramanian V. "<u>Understanding the impact of an AI-enabled Conversational Agent mobile app on users'</u> mental health and wellbeing with a self-reported maternal event: A mixed method real-world data mHealth study". Frontiers in Global Women's Health. 2023.

**Inkster B**, Megale V, Stone J. <u>Editorial: Virtual Reality in Paediatrics. Frontiers in Virtual Reality, Virtual Reality in Medicine.</u> 09 Jan 2023. Editor Special Issue in Frontiers on "Virtual Reality in Paediatrics"

**Inkster B**, Lee M. Turing Trustworthy AI Forum: AI and customer vulnerability. Event Leader along with Michelle Lee and The Alan Turing Institute. May 2022. Connected to <a href="https://www.turing.ac.uk/research/interest-groups/turing-trustworthy-ai-forum">https://www.turing.ac.uk/research/interest-groups/turing-trustworthy-ai-forum</a>

"The impact of the initial COVID-19 outbreak on young adults' mental health: a longitudinal study of risk and resilience factors" Nature October 2022 Scientific Reports 12(1):16659. DOI: 10.1038/s41598-022-21053-2

Sheppard M, Inkster B. "Ultrasonic Sound Perception in the Human Brain." White Paper, 2022.

Milne-Ives M, Selby E, **Inkster B**, Lam C, Meinert E. "Artificial intelligence and machine learning in mobile apps for mental health: A scoping review of randomised controlled trials and cohort studies." Accepted, PLOS Digital Health, 2022.

Tsakalidis A, ChimJ, Bilal IM, Zirikly A, Atzil-Slonim D, Nanni F, Resnik P, Gaur M, Roy K, Inkster B, Leintz J, Liakata M. Accepted, 2022. "Overview of the CLPsych 2022 Shared Task: Capturing Moments of Change in Longitudinal User Posts." In Proceedings of the Eighth Workshop on Computational Linguistics and Clinical Psychology: Mental Health in the Face of Change, Seattle, Washington. Association for Computational Linguistics.

Inkster B. "Digital tools for mental health in a crisis." March 2021. The Lancet Digital Health. Editorial quote.

**Inkster** et al (<a href="https://www.beckyinkster.com/covid19team">https://www.beckyinkster.com/covid19team</a>). "Early warning signs of a mental health tsunami: A coordinated response to gather initial data insights from digital services providers" Feb 2021. Frontiers in Digital Health.

Inkster B, Stevenson A, Mateen B, Loo P. "Building the future of financial technology healthcare practices." Preprint 2021

Vidgen B, Taylor H, Pantazi M, Anastasiou Z, **Inkster B**, Margetts H. "Understanding vulnerability to online misinformation." The Alan Turing Institute, Policy Programme. March 2021

Sule A, Inkster B. "A public health perspective on hip-hop's response to the COVID-19 pandemic: Experiences of illness,

spread of misinformation, and mobilization of resources" Accepted, December 2020. Public Health in Practice.

Sule A, **Inkster B**. "Rap's battle with mental health: how hip-hop's progressive narratives are helping to tackle stigma." Accepted, December 2020. Opinion platform, *The BMJ*.

**Inkster B**, O'Brien R, Selby E, Joshi S, Subramanian V, Kadaba M, Schroeder K, Godson S, Comley K, Vollmer S, Mateen B. "Digital health management during and beyond the COVID-19 pandemic: Opportunities, barriers, and recommendations". Preprint/; 2020 Accepted. *JMIR Mental Health*.

Patel S, Craigen G, Pinto da Costa M, **Inkster B**. "Digital social prescribing in mental health: Opportunities and challenges." Accepted. JMIR. 2021;23(3):e17438) doi: 10.2196/17438.

Sule A, **Inkster B**. "Hip-hop's survival anthems: Incarceration narratives and identifying resilience factors in Maino's lyrics." *Forensic Science International: Mind and Law*. Accepted. 2020.

Write-up by the Editor of *The Lancet Psychiatry* in the December 2019 <u>newsletter</u> about my FinHealthTech event held at the Turing 5th Dec 2019.

Woodward K, Kanjo E, Brown D, McGinnity TM, **Inkster B**, Macintyre DJ, Tsanas A. Beyond Mobile Apps: A Survey of Technologies for Mental Well-being. *IEEE Transactions on Affective Computing*. Accepted. 2019.

**Inkster B**, Loo P, Mateen B, Stevenson A. "Improving insights into health care with data linkage to financial technology." *Lancet Digital Health*. July, 2019.

**Inkster B.** "Selfies and self-curation." Exhibition Review. *Lancet Psychiatry*. 2019.

Inkster B, Sarda S, Subramanian V. "An Empathy-Driven, Conversational Artificial Intelligence Agent (Wysa) for Digital Mental Well-Being: Real-World Data Evaluation Mixed-Methods Study." *Journal of Medical Internet Research (JMIR Mhealth Uhealth)*, 2018; 6(11): e12106.

Russ TC, Woelbert E, Davis KAS, Hafferty J, Ibrahim Z, **Inkster B**, John A, Lee W, Maxwell M, McIntosh AM, Stewart R; for the MQ Data Science Group. "How data science can advance mental health research." Accepted. *Nature Human Behaviour*, 2018.

Doukani A, Wei X, Kader B, Soazandry F, **Inkster B**. "Views from the street pilot study: Constraints and difficulties of using photographs in research of a complex nature such as homelessness." Accepted. *Biomedical Informatics Insights*, 2018.

**Inkster B**, Zai G, Lewis G, Miskowiak KW. "GSK3beta: a plausible mechanism of cognitive and hippocampal change induced by erythropoietin treatment in mood disorders?" Review. Accepted. *Translational Psychiatry*. 2018.

**Inkster B**, Simmons A, Cole J, Schoof E, Linding R, Sämann PG, Holsboer F, Matthews PM, Lewis C, McGuffin P, Nicodemus K. "Unravelling the GSK3beta-related genotypic interaction network influencing hippocampal volume in recurrent major depressive disorder." *Psychiatric Genetics*, 2018; 28(5): 77–84.

**Inkster B**, Guest Editor: *Biomedical Informatics Insights*. Editorial: "Proceedings from the Digital Innovation in Mental Health Conference, London, 2017." This editorial is part of a Special Collection released in 2018 for a conference I created and lead on called Digital Innovation in Mental Health.

Sule A, Inkster B. "Eminem's character, Stan: a bio-psycho-social autopsy." Journal of Hip Hop Studies, 2017; 4(1): 43–49.

Kiddle, B, **Inkster**, **B**, Prabhu, G, Moutoussis, M, Whitaker, K, Bullmore, E, et al. The NSPN 2400 Cohort: a developmental sample supporting the Wellcome Trust Neuroscience in Psychiatry Network. *International Journal of Epidemiology*, 2017; 47(1): 18-19.

**Inkster B**, Stillwell D, Kosinski M, Jones PB. A decade into Facebook: where is psychiatry in the digital age? *The Lancet Psychiatry*, 2016; 3(11): 1087-1090.

Whitaker KJ, Vertes PE, Romero-Garcia R, Vasa F, Moutoussis M, Prabhu G, Weisskopf N, Callaghan MF, Wagstyl K, Rittman T, Tait R, Ooi C, Suckling J, Inkster B, Fonagy P, Dolan RJ, Jones PB, Goodyer IM, Bullmore ET. Adolescence is associated with

transcriptionally patterned consolidation of the hubs of the human brain connector. PNAS, 2016; 113(32): 9105-9110.

Miskowiak KW, Vinberg M, Macaveanu J, Ehrenreich H, Køster N, **Inkster B**, Paulson OB, Kessing LV, Skimminge A, Siebner HR. Effects of erythropoietin on hippocampal volume and memory in mood disorders. *Biol Psychiatry*. 2015; 78(4): 270–7.

Sule A, Inkster B. Kendrick Lamar: street poet of mental health. The Lancet Psychiatry. 2015; 2(6): 496–7.

Inkster B, Sule A. Drug term trends in American hip-hop lyrics. J Public Mental Health. 2015; 14(3): 169–73.

Toseeb U, Inkster B. Online social networking sites and mental health research. Frontiers in Psychiatry. 2015; 6(36). 1-4.

Sule A, Inkster B. A hip-hop state of mind. The Lancet Psychiatry. 2014; 1(7): 494–495.

Weiskopf N, Suckling S, Williams G, Morgado Correia M, Inkster B, Tait R, Ooi C, Bullmore ET, Lutti A. Quantitative multi-parameter mapping of R1, PD\*, MT and R2\* at 3T: a multi-center validation. *Front. Neurosci. Brain Imaging Methods*. 2013; 7(95): 1–11.

**Inkster B**, Vounou M, Montana G, ADNI Consortium. Genetic screening of the human kinome identifies a cellular signalling network predictive of brain atrophy in Alzheimer's disease. Conference poster, *British Association of Psychopharmacology*, 2017.

**Inkster B**, Strijbis EM, Vounou M, Kappos L, Radue EW, Matthews PM, Uitdehaag BM, Barkhof F, Polman CH, Montana G, Geurts JJ. Histone deacetylase gene variants predict brain volume changes in multiple sclerosis. *Neurobiol. Aging*. 2013; 34(1): 238–247.

Strijbis EM\*, Inkster B\*, Vounou M, Naegelin Y, Kappos L, Radue EW, Matthews PM, Uitdehaag BM, Barkhof F, Polman CH, Montana G, Geurts JJ. Glutamate gene polymorphisms predict brain volumes in multiple sclerosis. *Mult. Scler.* 2013; 19(3): 281–288.

Coghlan S, Horder J, **Inkster B**, Mendez MA, Murphy DG, Nutt DJ. GABA system dysfunction in autism and related disorders: from synapse to symptoms. *Neurosci. Biobehav. Rev.* 2012; 36(9): 2044–2055.

**Inkster B**, Rao A, Ridler K, Filippini N, Whitcher B, Nichols T, Wetten S, Gibson R, Borrie M, Kertesz A, Guzman D, Loy-English I, Williams J, Saemann PG, Auer DP, Holsboer F, Tozzi F, Muglia P, Merlo-Pich E, Matthews PM. GOLM1 genetic variation associations with prefrontal cortex morphology and Alzheimer's disease risk. *Neurobiol Aging*. 2012; 33(3): 457–465.

Dixson L, Ridler K, Nichols T, Saemann P, Auer D, Holsboer F, Muglia P, Matthews PM, **Inkster B**. Thyroid transporter gene polymorphisms and brain structural differences in healthy controls and patients with major depressive disorder. *Psychoneuroendocrinology*. 2011; 36(6): 929–934.

**Inkster B**, Rao AW, Ridler K, Nichols TE, Saemann PG, Auer DP, Holsboer F, Tozzi F, Merlo-Pich E, Muglia P, Matthews PM. Structural brain changes in patients with recurrent major depressive disorder presenting with anxiety symptoms. *J. Neuroimaging*. 2011; 21(4): 375–382.

**Inkster B**, Nichols TE, Saemann PG, Auer DP, Holsboer F, Muglia P, Matthews PM. Pathway-based approaches to imaging genetics association studies: wnt signaling, GSK3beta substrates and major depression. *Neuroimage: Special Issue on Imaging Genetics*. 2010; 53(3): 908–917.

Miskowiak KW, Favaron E, Hafizi S, **Inkster B**, Goodwin GM, Cowen PJ, Harmer CJ. Erythropoietin modulates neural and cognitive processing of emotional information in biomarker models of antidepressant drug action in depressed patients. *Psychopharmacology*. 2010; 210(3): 419–428.

**Inkster B**, Nichols T, Saemann P, Auer D, Holsboer F, Muglia P, Matthews P. Association of GSK3B polymorphisms with brain structural changes in major depressive disorder. *Arch Gen Psychiatry*. 2009; 66(7): 721–728.

Miskowiak K, Favaron E, Hafizi S, Inkster B, Goodwin G, Cowen P, Harmer C. Effects of erythropoietin on emotional processing

biases in patients with major depression: an exploratory fMRI study. Psychopharmacology 2009; 207(1): 133-142.

Mannie Z, Norbury R, Murphy SE, **Inkster B**, Harmer CJ, Cowen PJ. Affective modulation of anterior cingulate cortex in young people at increased familial risk of depression. *Br J Psychiatry*. 2008; 192(5): 356–361.

Miskowiak K, **Inkster B**, O'Sullivan U, Selvaraj S, Goodwin GM, Harmer CJ. Differential effects of erythropoietin on neural and cognitive measures of executive function 3 and 7 days post-administration. *Exp Brain Res.* 2008; 184(3): 313–321.

Miskowiak K, **Inkster B**, Selvaraj S, Wise R, Goodwin GM, Harmer CJ. Erythropoietin improves mood and modulates the cognitive and neural processing of emotion 3 days post administration. *Neuropsychopharmacology*. 2008; 33(3): 611–618.

Miskowiak K, **Inkster B**, Selvaraj S, Goodwin GM, Harmer CJ. Erythropoietin has no effect on hippocampal response during memory retrieval 3 days post-administration. *Psychopharmacology*. 2007; 195(3): 451–453.

**Inkster B**, Muglia P, Jain U, Kennedy JL. Linkage disequilibrium analysis of the dopamine beta-hydroxylase gene in persistent attention deficit hyperactivity disorder. *Psychiatr Genet*. 2004; 14(2): 117–120.

Muglia P, Jain U, **Inkster B**, Kennedy JL. A quantitative trait locus analysis of the dopamine transporter gene in adults with ADHD. *Neuropsychopharmacology* 2002; 27(4): 655–662.

## **SELECTED INVITED SPEAKER PRESENTATIONS & MEETINGS (2010 - current)**

Invited Speaker, <u>AI UK</u>, March 2024. Talk title: "AI meets SI: Street Intelligence as a Radical New Roadmap for Creative Care". Working in collaboration with **The Alan Turing Institute**.

Invited Speaker, Money Advice Trust, "Vulnerability Matters" podcast speaking about money, mental health and hip-hop

<u>Digital Innovation in Mental Health</u> **2023 (DIMH2023) Conference**, Lead/Creator, virtual/London, UK, 19-20 July 2023.

Computers, Privacy & Data Protection (CPDP2023). Panel Speaker. 25 May 2023. Panel title: "Regulating e-Mental Health: Progress, Pitfalls and Global Lessons".

<u>IEEE Telehealth IC Program</u>. Invited Speaker 9 March 2023. Talk title: 'Cybersecurity in Digital Mental Health: The API Project".

<u>CASY 2.2.</u> Collaborative Assistants for Society. Keynote Speaker. 18 March 2022. Talk title: "Prioritizing safety and integrity when innovating in digital mental health spaces".

Digital Innovation in Mental Health 2022 (DIMH2022) Conference, Lead/Creator, virtual/London, UK, 19-20 July 2022.

**The Open Data Institute 2021 Summit** Invited Speaker/Moderator, 2 Nov 2021. Talk title: "Generation C: How can data help young people emerge strong and happy from the pandemic?"

NHS England and NHS Improvement Invited Speaker. 22nd Sept 2021. Talk Title: "Cybersecurity in Digital Mental Health".

Digital Innovation in Mental Health 2021 (DIMH2021) Conference, Lead/Creator, virtual/London, UK, 4-5 Aug 2021.

Hay Festival Invited Speaker, 4 June 2021. Talk title: "Young people's mental health in a complex world'.

Mayo Clinic College of Medicine, Grand Rounds. Invitation by The Grand Rounds Committee of the Department of Psychiatry and Psychology, Mayo Clinic. 5th May 2021. Hip Hop Psych.

**IEEE Standards Association** Connected Health Cybersecurity Workshop: 28th April 2021. Facilitator.

UK Psychiatry Societies & Association of University Teachers of Psychiatry, 17th March 2021: Al in mental healthcare.

X4D Virtual Series, Remote Speaker, 7 Oct 2020: "Rhymes Equal Actual Life in the Youth\*: Connecting Mental Health Support

with Hip-Hop Culture" (\*lyrics by KRS-ONE).

One Team Gov Suicide Prevention for World Suicide Prevention Day #WSPD2020 #OTGSP, Remote Speaker, 10 Sept 2020.

Digital Innovation in Mental Health 2020 (DIMH2020) Conference, Lead/Creator, virtual/London, UK, 4-5th August 2020.

**European Congress of Psychiatry**, Remote Speaker, 4-7 July 2020, "Early warning signs of a mental health tsunami: Initial data insights from digital services providers during COVID-19".

**IEEE Standards Association** #WAMIIIVirtualTalkSeries, Invited Panellist, 8th June 2020: "The Great Migration Online: Connected Health and Wellness in a Challenged Cyberspace".

House of Lords, Parliament, UK, Invited Panellist, 3rd March 2020: IncomeMax Parliamentary Event.

Royal College of Physicians, UK, Invited Speaker, 28th Feb 2020. Artificial Intelligence in Gastroenterology.

**Prime Minister's Office**, Dubai, UAE, Invitation, Dec 2019.

**Event Creator & Lead,** "FinHealthTech: New opportunities at the intersection of health and wealth", held at The Alan Turing Institute, 5th December 2019.

Capital One, UK, Invited Speaker, 7th November 2019: "Voice analytics, vocal psychopathology and sentiment intensity"

**IASR/AFSP International Summit on Suicide Research**, Invited Symposium Speaker, Miami, USA, 27-30th October 2019: "Social media, machine learning and suicidal behaviours."

Invited Guest/Speaker as part of Hip Hop Psych, BBC Sounds & George The Poet, London, UK, 18<sup>th</sup> October 2019.

Invited Speaker, Twitter & Model Westminster, London. 3rd September 2019

Digital Innovation in Mental Health 2019 (DIMH2019) Conference, Lead/Creator, London, UK, 13-14th August 2019

**British Association for Psychopharmacology Annual Conference**, Public Event, Manchester, UK, 14-17th July 2019: "Hip Hop Psych: Lyrics, Drugs, Mind and Behaviours".

**Open Data Institute**, Lecture, London, UK, 5th July 2019: "Digital mental health: finding signals, respecting noise & dealing with uncertainty"

The Royal College of Psychiatrists International Congress, Symposium, London, UK, 1-4th July 2019: "Ethical futures in digital mental health: a helpful guide"

Computational Linguistics and Clinical Psychology, Keynote Speaker, Minneapolis, USA, 6th June 2019

The Society for the Study of Artificial Intelligence and Simulation of Behaviour (AISB) Convention, Keynote Speaker, UK, 16-18th April 2019

Translational Research Institute for Space Health (TRISH) & NASA partnership, Workshop Speaker, Houston, USA, 17th January 2019: ""Space health: innovation in biotechnology and conversational agents that address mental health and wellbeing".

National University of Singapore Academic Psychiatry Conference, Plenary Speaker on E-Mental Health, Singapore, 18-23rd January 2019: "How will digital innovation shape the future of mental health services?" Also Invited Speaker at the Resilience Roundtable. Talk title: "Enhancing Resilience from an AI perspective"

Al for Government Summit, Workshop Leader, Toronto, Canada, 25-26th October 2018: "Data Trading Platforms & Trust"

**Tanenbaum Centre for Pharmacogenetics, Centre for Addiction & Mental Health**, Toronto, Canada, 25th October 2018: "Biotechnology, mental health and ethics"

The Global Ministerial Mental Health Summit, Invitation, London, UK, 9-10th October 2018

IBM Watson AI XPRIZE, Judging Panel, September 2018 – ongoing until 2020 finals

"Mics & Minds" Hip Hop Psych Neuroscience Study (music neuroscience intervention study) August 2018 – ongoing

Digital Innovation in Mental Health 2018 (#DIMH2018) Conference, Lead/Creator, London, UK, 17-18th July 2018

Al Global Governance Commission Meeting, Announced as an Advisor, Parliament, London, UK, June 2018

All-Party Parliamentary Group (APPG) on Psychology Meeting, Parliament, London, UK, June 2018

**UN AI for Good Global Summit in partnership with The Leverhulme Centre for the Future of Intelligence**, Invited Speaker, Geneva, Switzerland, 15-17th May 2018: "Earning the trust of disadvantaged AI stakeholders"

American Psychiatric Association (APA), Invited Symposium, New York City, USA, 5-9th May 2018: "New frontiers for artificial intelligence in psychiatry: from personalised health to community care"

The Royal Society and The Leverhulme Centre for the Future of Intelligence, workshop invitation, London, UK, 3rd May 2018: "Al Narratives: How do we talk about Al?"

All-Party Parliamentary Group (APPG) on Social Media and Young People's Mental Health and Wellbeing launch, Invited Speaker, Parliament, London, UK, April 2018

The Centre for Global Mental Health, The London School of Hygiene & Tropical Medicine, Invited Speaker, London, UK, 17th April 2018: "Digital psychiatry, ethics and society: a collection of disruptive thoughts"

**UCL Educational Psychology Group Leading Edge Day Conference**, Keynote Speaker, London, UK, 27th March 2018: Children and young people in the digital age: what do EPs need to know? Talk title: "Putting ethics at the forefront of frontiers in digital mental health"

Facebook Mental Health Roundtable, Global Policy Team, Menlo Park, California, USA, 21st March 2018

BBC Tomorrow's World, Filmed Interview, London, UK, 17th March 2018

**Royal Society of Medicine**, Invited Speaker, London, UK, 14th November 2017: "Social media: challenges and benefits for mental health and wellbeing".

Scottish Mental Health Arts & Film Festival, The Mental Health Foundation. 20th April 2017 [as part of HIP HOP PSYCH].

Association of University Teachers in Psychiatry, The Royal College of Psychiatrists, Annual General Meeting, London, UK. 7<sup>th</sup> April 2017 [as part of HIP HOP PSYCH].

**TED Talk** Invitation (had to decline) Title: "The Portrayal of Mental Health In Hip-Hop Lyrics". New York City, USA. [as part of HIP HOP PSYCH] declined while on maternity.

**The International Conference of Hip-Hop Studies** Title: "Drug Trends in Hip-Hop Lyrics". Wolfson College, Cambridge, UK. 23<sup>rd</sup> June 2016 [as part of HIP HOP PSYCH].

MQ Mental Health Data Science Meeting. Invited Attendee. Swansea University, Wales, UK. 8-9th March 2016.

**Strategies for Managing Social Media Research Data & Digital Method Developments Workshop** Title: "Where is Psychiatry in the Digital Age". Cambridge University Library and the Digital Humanities Network Cambridge, University of Cambridge, UK. 12<sup>th</sup> Feb 2016 [as part of my social media data research].

MQ Annual Science Meeting 2016 & "Improving Children and Young People's Mental Health Through Research and Policy" Session. Invited Attendee. Mental Health Conference, London, UK. 4-5<sup>th</sup> Feb 2016.

**Plenary Session, The World Congress of Psychiatric Genetics** Title: "Hip-Hop & Mental Health: Straight Outta Cambridge Tour". Toronto, Canada. 17<sup>th</sup> Oct 2015 [as part of HIP HOP PSYCH].

**Avon Longitudinal Study of Parents and Children (ALSPAC) Seminar** Title: "Bringing ALSPAC into the Digital Age". Bristol University, UK. 8<sup>th</sup> Sept 2015 [as part of my social media data research].

University of Cambridge Inaugural Annual Research Ethics Committee Event: Ethics, Integrity of Research Data and Research Online Workshop Title: "Is psychiatry ready for social media?" University of Cambridge, UK. 18<sup>th</sup> June 2015 [as part of my social media data research].

Parc Prison Young Offenders Institution (Security class: Category B Adult Males/Young Offenders/Juveniles) Seminar to Prisoners Title: "HIP HOP PSYCH: resilience and plasticity". Bridgend, Wales. 14<sup>th</sup> Apr 2015 [as part of HIP HOP PSYCH].

The Lancet Psychiatry & Dylan Thomas Centre present: HIP HOP PSYCH Briefing Title: "The portrayal of mental health in hiphop lyrics". Swansea, UK. 13<sup>th</sup> Apr 2015 [as part of HIP HOP PSYCH].

**Oxford University African Caribbean Society** Title: "Using hip-hop as a vehicle for raising awareness about mental health". Oxford, UK. 16<sup>th</sup> May 2014 [as part of HIP HOP PSYCH].

The Ortus Centre: opening event to launch their new building, Institute of Psychiatry & Maudsley NHS Title: "Hip Hop Psych – a new conversation about mental health". South London, UK. 21<sup>st</sup> Nov 2013 [as part of HIP HOP PSYCH].

The Centre of Medical History, University of Exeter & Wellcome Trust Event Title: "HIP HOP PSYCH presents: exploring hiphop lyrics for mental health messages". Exeter, UK. 17-18<sup>th</sup> Oct 2013 [as part of HIP HOP PSYCH].

**Cognition and Brain Sciences Unit** Title: "New directions for neuroimaging genetics studies: a molecular biological perspective". Medical Research Council, Cambridge, UK. Apr 2012 [as part of my imaging genetics research].

**The Wellcome Trust Centre for Neuroimaging** Title: "New directions for neuroimaging genetics studies: a molecular biological perspective" University College London, UK. Feb 2012 [as part of my imaging genetics research].

**The Centre for Neuroimaging Sciences** Title: "Neuroimaging and genetics: what's not working?" Institute of Psychiatry, King's College London, UK. Oct 2011 [as part of my imaging genetics research].

**Human Brain Mapping Conference** Title: "MeCP2 affects prefrontal structure and metabolism differentially in healthy subjects and MDD". Québec, Canada. June 2011 [as part of my imaging genetics research].

The Cardiff University Brain Research Imaging Centre (CUBRIC) Title: "Imaging genetics: making distinctions between motion and progress". Cardiff University, Wales, UK. Feb 2011 [as part of my imaging genetics research].

**National Institute of Mental Health** Title: "Using biologically-driven pathway-based hypotheses to guide imaging genetics studies". Genes, Cognition and Psychosis Program, NIH, Maryland, USA. May 2010 [as part of my imaging genetics research].

**British Chapter ISMRM** Title: "Thyroid hormone transporter gene variants and grey matter volume changes in depression". Institute of Psychiatry, King's College London, UK. Mar 2010 [as part of my imaging genetics research].

Center for Integrated Molecular Brain Imaging (CIMBI) Title: "What can imaging genetics tell us about the therapeutic effects of erythropoietin in depressed patients?" Neurobiological Research Unit, Copenhagen University Hospital, Denmark. Mar 2010 [as part of my imaging genetics research].

**Psychiatric Neurogenetics Group Seminar** Title: "Imaging genetics association studies in major depression: Wnt signaling, GSK3beta substrates and major depression". Centre for Addiction and Mental Health (CAMH), University of Toronto, Canada. Feb 2010 [as part of my imaging genetics research].

## **AWARDS, FUNDING & MEMBERSHIPS**

- NIHR Artificial Intelligence in Health and Care Award, Co-Investigator ~£1m (2021)
- Wellcome Trust Strategic Award, Senior Research Director NSPN ~5.3 m (2011-2017)
- Senior Communications Prize awarded to Hip Hop Psych by the British Association of Psychopharmacology (2017)
- University of Cambridge Vice Chancellor's Public Engagement in Research Award (2016)
- Wellcome Trust Small Arts Award Co-Investigator. "Depths of My Mind" (UNS22355); ~£40K (Jul-Oct 2016)
- Wellcome Trust Small Arts Award Co-Investigator. "Research and Development: aerial theatre collaboration between Scarabeus Theatre and the Neuroscience in Psychiatry Network (NSPN)". Awarded; ~£25K; 110529/Z/15/Z) (Nov-Jan 2016)
- Cambridgeshire & Peterborough NHS Trust (CPFT) funds to host a Patient & Public Involvement Young Person Mental Health Service User Advisory Group. Title: "Facebook, Ethics and Mental Health" (Feb, 2016)
- Senior Communications Prize awarded by the British Association of Psychopharmacology (2015)
- Lloyds Bank Social Entrepreneurs Programme shortlisted as first reserve (2014)
- Wellcome Trust Value In People Award (1.0 FTE salary; 6 months). Department of Statistics, Imperial College London. Applying multivariate statistical methods to imaging genetics data sets (Oct–Apr 2011).
- Full Blue Awards. University of Oxford Basketball Team Captain (2003-2006)

#### **SCIENTIFIC SKILLS**

Throughout my scientific career, I have attained a wide-range of first-hand experiences in neuropsychiatric genetics, molecular neuropathology, epigenetics, neuroimaging, statistical modeling of Big Data, neuropsychopharmacology, mood disorder clinical trials, and epidemiology with my most recent commitment to exploring social media data, financial data, and digital technology to bring innovation to mental healthcare, especially for disadvantaged, hard-to-reach, low resource populations.

## Outcomes:

- I've created multi-disciplinary working environments and groups: (1) "Digital Innovation in Mental Health" (<a href="https://www.beckyinkster.com/summer-2020-conference">https://www.beckyinkster.com/summer-2020-conference</a>), which interleaves complex themes across psychiatry, digital technology, ethics, global mental health, culture, policy, computing, statistics, ethics, neuroscience, religion and more, (2) Mental Health Data Insights Group (MH-DIG) <a href="https://www.beckyinkster.com/covid19">https://www.beckyinkster.com/covid19</a>, (3) FinHealthTech Consortium (FHTC) <a href="https://www.beckyinkster.com/fhtc">https://www.beckyinkster.com/fhtc</a>
- I examine digital data (e.g., social media data, financial data) in my psychiatry and neuroscience research. Some of my work uses chatbot interventions (Wysa-Touchkin), also "Long Data" i.e., a longitudinal framework relating historical records of 'online' digital social networking data to 'offline' multiple time point measures of psychopathology and neurobiological data. This has lead to high impact publications (e.g., Lancet Psychiatry) and invitations to speak internationally.
- I maintain a strong commitment to neuroscience research (e.g., GSK3beta biological function, hippocampal structure, cognition and mood disorder treatment with the drug, EPO; with high impact publications, e.g., *Biol Psychiatry*, *PNAS*).
- I contributed to the development of advanced structural neuroimaging methodologies, which I lead on integrating with genetics data resulting in multiple publications, and presentations internationally (GSK Clinical Imaging Centre).
- I have various skills using neuroscience software, IT packages etc.

### **COMMITMENT TO SOCIETY & COMMUNICATION SKILLS**

**Co-Founder of HIP HOP PSYCH** (www.hiphoppsych.co.uk) (Nov 2012 – ongoing):

This social venture draws connections between mental health and hip-hop music in several ways: (i) public health campaigning to de-stigmatise mental health and educate the general public in diverse settings (e.g., prisons, lecture halls, night clubs, pubs, African Caribbean Societies, large concert and conference halls etc.); (ii) improve recruitment of medical students into psychiatry and improve knowledge among psychiatry trainees in psychopathology, addiction, psychosocial

models etc.; (iii) explore how hip-hop could be used to refine psychotherapies.

## Outcomes:

• (i) HIP HOP PSYCH's *The Lancet Psychiatry* publication (2015) is ranked no. 1 of all time for most Shares, Likes, Comments on the University of Cambridge Facebook Page and ranked no. 9 of all time for most views on the University of Cambridge website, which captured a much broader, younger audience; (ii) Interviewed by BBC World Service, broadcasted to ~200 million listeners; (iii) Senior Communications Prize (British Association of Psychopharmacology).

#### **NSPN Public Outreach & Social Media Manager** (Nov 2011 – March 2017):

Promoting NSPN through public engagement and applying for Arts awards, social media engagement, NSPN website creation, Facebook Page, study team intranet site etc.

#### Outcomes:

• I am a co-applicant on an awarded Wellcome Trust Small Arts Grant for an aerial theatre & NSPN collaboration called "Depths of My Mind" (promo video: <a href="https://vimeo.com/156168511">https://vimeo.com/156168511</a>). We obtained funds to support aerial theatre performance collaborations between Scarabeus Theatre and NSPN focusing on ways of merging the arts with NSPN scientific findings. We experimented with new methods and involved a Young Person Advisory Group to inform the production; (ii) I helped launch NSPN by working with the BBC (e.g., <a href="http://www.bbc.co.uk/news/health-22510866">http://www.bbc.co.uk/news/health-22510866</a>) for the 6 o'clock news coverage, Radio 4, international radio, and liaising with film companies.

### Patient & Public Involvement (PPI) for my Social Media Data Research (Nov 2015 – March 2017):

I engage with Young People Advisory Groups (especially mental health service users) to develop my research ideas that explore the use of social media data to better detect mental illness factors and to better intervene and use these tools to enhance personalized patient care. The views of patients have not been emphasized enough in this new field and so this is a key area. I work closely with the User and Carer R&D Manager for Cambridgeshire & Peterborough NHS Foundation Trust (CPFT) and the Participation Coordinator, Community Child & Adolescent Mental Health Services (CAMHS). We ran our first workshop to discuss the views of young service users about social media data sharing, ethics, privacy etc.

#### Outcomes:

• I received valuable qualitative and quantitative feedback measures from attendees, which greatly improved the translation of my research ideas.

## **MANAGEMENT & LEADERSHIP SKILLS**

In my previous role as senior programme manager, I was responsible for governance, protocol development, ethics, R&D, developing operating procedures, study manuals, multi-site employment and management of scientific and clerical staff (~40 people), financial reporting, securing off-grant funding, insurance/contract agreements, sponsorship liaising, networking amongst multiple NHS and non-NHS organisations, establishing committee structures, attending/chairing meetings (NSPN Senior Research Manager; University of Cambridge).

#### Outcomes:

- I successfully used my negotiation skills paired with my scientific knowledge to save resources and NSPN funds while also securing additional funds for NSPN (e.g., obtaining off-grant support costs) (University of Cambridge).
- I proactively pursued management training. For example, I completed a Personal and Professional Development course to improve my ability to categorise and manage risk in more measurable ways, I established contingency strategies for staff members as they worked toward demanding deadlines, and I gained awareness about the importance of the perception of progress for staff and stakeholders and building in 'small victories'. I have received excellent staff feedback (available upon request) about my management style (University of Cambridge).
- I have taken on additional non-NSPN staff & research managerial duties. For example, I manage ethics/R&D for a large cohort study called ROOTS (£1m funded by the Wellcome Trust; 2013 ongoing). I have advised additional studies with REC/R&D, SOP design, case report form and manual creation etc. (University of Cambridge).
- I was Project Manager for all ongoing departmental neuroimaging and genetics studies, with some work involving setting up multi-centre collaborations with UCLA, USA (Institute of Psychiatry).
- I managed several large-scale neuroimaging genetics projects involving Major Depressive Disorder (collaborators: Max Planck Institute, Germany), Alzheimer's disease (collaborators: Western University, Canada and Cardiff University, Wales), and Multiple Sclerosis (collaborators in The Netherlands and Switzerland) (GSK Clinical Imaging Centre).
- I was the key operational lead of running 2 MRI scanners. I managed all neuroscience study bookings and interacted with patients, clinicians, and researchers, while also initiating several scientific collaborations (University of Oxford).

### **COLLABORATIVE SKILLS & TEACHING**

I seek innovation by initiating collaborations within and beyond academic settings. I work with many incredible scientists around the world, mental health charities and societies, the music and fashion industries. I work with homeless shelters, prisons, and more. I am always keen to listen to people's work/stories to see how we might be able to work together or how I could point them in the right direction to move forward. I have a very esteemed network of contacts and collaborators. I have experience teaching for MSc courses (Title: "Psychiatric Genetics & Epidemiology", University of Cambridge, 2014 & 2015; Title: "Mental Health in Learning Disabilities", Institute of Psychiatry, 2011). I love using interactive learning technological tools. My work has been integrated into coursework of 4<sup>th</sup> Year Psychology undergraduate studies (Oberlin College, Ohio).