Codebook

This codebook assumes that the name, handle and bio of each Twitter user will contain true information about the user. Websites linked in the bio can also be used to find more information, however, if an individual links to a website that represents a larger group/organisation and it is not clear what information pertains to the individual, the information should not be included.

Google translate can be used for translating foreign language content.

# Location

(all accounts)

If the user has listed a location, it should come up in the appropriate column.

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| Location Type | Classification | Example |
| City, Country | Country | Chennai, India -> India |
| City | Country | Paris -> France |
| Multiple cities/countries | Multiple: note countries | London, New York -> Multiple: England, US |
| Global/worldwide/etc | Global | Worldwide -> Global |
| Made up places | None listed | My mother’s basement -> none listed |
| None | None listed | Self-evident |

# Organisation vs Individual vs Unclear

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| Code | Definition | Example |
| Organisation | Any non-individual including journals, online campaigns, organisation accounts, research groups, etc. | *@crowdfundedcure*  *CrowdFundedCures*  *Our charity's mission is fix the health and economic burden caused by the patent system by establishing Social Impact Bonds / bounties for Open Source Medicines* |
| Individual | Account for a single person.  Has a single person’s name in handle/name. | *@melindarichter*  *Melinda Richter*  *#Champion 4 #Innovators #Startups #Healthcare #Innovation #Patients #Women #JLABS @JNJInnovation | #Creativity #Curiosity #Adventure #News #Life | Views my own* |
| Unclear | User cannot be identified as an individual or organisation  Includes spam, accounts with no bio or gibberish/unclear bios.  Includes “joke accounts”.  **NOTE – no further coding required for accounts marked as UNC.** | *@terryjamesmay*  *Tez*  *Dalé* |

# Organisations

Type

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| Code | Definition | Example |
| Journal (J) | Bio describes it as **scientific/official** journal or Twitter feed for a journal  AND/OR  Name reasonably corresponds to title of existing journal (Note – twitter has character limits)  AND/OR  Journal can be found easily via Google search | *@fsgfmb*  *Future Microbiology*  *“MEDLINE-indexed journal providing updates on microbiological areas for clinicians, researchers and patients | IF 3.165 (2020) | Published by @futuresciencegp”* |
| Research group (RG) | Bio describes it as a [research] group *at* a certain institution, or *of* a certain academic or of a certain topic *e.g. Rutledge group, La Trobe tuberculosis group, SCOPE research group*  AND/OR  Name/handle includes the term “research group” | *@infection\_stand*  *Infection St Andrews*  *The infection group at the University of St Andrews is under the leadership of Prof Stephen Gillespie, Dr Janet Cox-Singh, Dr Matt Holden and Derek Sloan.* |
| Disease-oriented organisation (DO) | Groups that advocate for curing/treatment of one or more **named** diseases  Includes humanitarian groups, charities, government-run initiatives  *E.g. TBAlliance* | *@halttb*  *HALT TB*  *A war against the growing threat of Tuberculosis in India. #HaltTB for a better today & a disease free tomorrow!* |
| Other (OO) | Doesn’t describe itself as a research group or journal  AND/OR  Affiliated with known organisations, universities, etc *e.g. Sydney Chemistry, WHO*  AND/OR  Includes campaigns, single-issue groups, etc not related to diseases or otherwise fitting into another category  AND  Doesn’t have an individual’s name in handle/name section  Includes conferences | *@biopharmadive*  *BioPharma Dive*  *We provide in-depth insight into the most significant news and trends shaping biotech and pharma. Sign up here: https://t.co/F2W5HeStyV* |

\*Follow Wikipedia’s definitions for “academic journal” and “research group”.

Focus

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| Code | Definition | Example |
| Drug discovery and development (DD) | Includes mention of disciplines such as:  Chemistry:   * Analytical * Medicinal or synthetic * Rational design * Computational * In silico and de novo design * High-throughput screening   Biology:   * Assay development * Cellular * Electrophysiology * Genomics and molecular * Pharmacology * Physiology * Protein biochemistry, expression and synthesis * Protein engineering + biopharmaceuticals * Proteomics * Structural biology and crystallography   Other:   * Bio or chem informatics * Pharmacy/pharmaceuticals * Disease-oriented groups that mention **research** | *@panacea\_ii*  *PanACEA*  *A drug development programme to shorten and simplify treatment of tuberculosis.* |
| Science and technology (not including those above OR medical) (ST) | Mentions another scientific discipline e.g. programming, tech, data, digital  [Refer to Australian Business Industries](https://www.abs.gov.au/ausstats/abs@.nsf/latestproducts/51F40B39E0BA124CCA257B9500133E79?opendocument)  Includes charities/humanitarian groups with a strong science/tech focus  If they cover a range of STEM topics INCLUDING ones relevant to drug design/development, they should be classified as DD *e.g. Nature includes biology, chemistry therefore includes DD*  If they mention only “science” broadly, this is ST. | *@rr\_oxford*  *Reproducible Research Oxford*  *The Reproducible Research Oxford project. Working towards a culture of #reproducibility #openResearch #openScience @UniofOxford. #RROx tweets by @anthrolog.* |
| Health and medical (HM) | Mentions medical research, health, epidemiology, doctors, primary care  Includes disease-oriented groups that do not mention research/drug development  **Includes** charities/humanitarian groups with a **strong** health/medical/disease focus.  **Includes** epidemiology, public health. | *@ighsatucsf*  *UCSF Global Health*  *@UCSF Global Health Sciences is dedicated to improving health and reducing the burden of disease in the world's most vulnerable populations.* |
| Other (O) | Miscellaneous – none of the above present  Includes law, media, writing, charities and humanitarian groups with little/no science or medical focus | *@canberratimes*  *Canberra Times*  *Multimedia and breaking news out of Canberra from the website of Australia's national daily newspaper, The Canberra Times.* |

Interest in TB

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| Code | Definition | Example |
| TB (TB) | Mentions TB (#endTB, #stopTB) or tuberculosis | *@stoptb*  *Stop TB Partnership*  *The Stop TB Partnership is a UN hosted partnership and a collective force transforming the fight against tuberculosis. Retweets do not reflect endorsement.* |

Interest in TB

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| Code | Definition | Example |
| Open science (OS) | Mentions open science, open source, open access, open research, open drug discovery, preprints, open peer review  Includes crowdsourcing but **not** crowdfunding  Does **not** include science communication/journalism alone | *@ospinfo*  *OSPF*  *Open Source Pharma Foundation bringing medicine to all using #opensource for pharma R&D and drug discovery.* |

# Individuals

Type

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| Code | Definition | Example |
| Scientist (S) | Self-describes as scientist, academic, professor, doctor, (research) fellow, PI, postdoc, research assistant, lecturer  AND  Mentions science  OR  Self-describes as an “ist” e.g. biologist, chemist, pharmacologist  OR  Website indicates scientific background, e.g. maintains a scientific blog  **INCLUDES SCIENCE STUDENTS --**  Self-describes as student, PhD student, masters student, undergraduate  AND  Mentions science (see organisations)    **Includes** those who mention science profession as well as others (i.e. category is inclusive – if they are a scientist *and* a cook, they should still be classified as a scientist) | *@dana\_klug*  *Dana Klug*  *Postdoc @School\_Pharmacy working on #opensourcedrugdiscovery projects @O\_S\_M @OSantibiotics!* |
| Other Profession/Profession not classified (OP) | No mention of scientific or health/medical profession. May mention another profession or no profession at all.    OR  Multiple professions seem to be listed but unclear which is more prominent. See above note for scientists – can still list as scientist if a scientific profession is explicitly mentioned alongside others. | *@ganant*  *G.Ananthakrishnan*  *Journalist - Chennai, IND. My interests are in linkages between environment, health & development. I focus on mobility, urbanisation & climate. @straphanger\_in* |
| Health/Medical Professional (HM) | Self-describes as nurse, doctor, clinician, [disease] consultant  Describes self as involved in healthcare or medical services  **INCLUDES MEDICAL STUDENTS –**  These should be counted as health/medical professionals not scientists | *@lucicaditiu  Lucica Ditiu*  *I am the Executive Director of the Stop TB Partnership, a Romanian doctor that loves people. Tweeting about what I'm doing and how we help people with TB.* |

Focus (only for scientists and science students)

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| Code | Definition | Example |
| Drug discovery and development (DD) | Includes mention of disciplines such as:  Chemistry:   * Analytical * Medicinal or synthetic * Rational design * Computational * In silico and de novo design * High-throughput screening   Biology:   * Assay development * Cellular * Electrophysiology * Genomics and molecular * Pharmacology * Physiology * Protein biochemistry, expression and synthesis * Protein engineering + biopharmaceuticals * Proteomics * Structural biology and crystallography   Other:   * Bio or chem informatics * Pharmacy/pharmaceuticals | *@gvrayasam*  *Dr Geetha Vani Rayasam*  *Sr Pr Scientist @CSIR\_Ind*  *Experience in all avatars of Science! #Academia #Industry #DrugDiscovery #TB #Outreach @IISc/IGBMC/NIH/Ranbaxy/OSDD*  *Personal Views* |
| Science and technology (not including those above OR medical) (ST) | Mentions another scientific discipline e.g. programming, tech, data, digital, economics, agriculture, mathematics, food research  Refer to [Australian Business Industries](https://www.abs.gov.au/ausstats/abs@.nsf/latestproducts/51F40B39E0BA124CCA257B9500133E79?opendocument)  If they mention a range of STEM topics INCLUDING ones relevant to drug design/development, they should be classified as DD | *@murrayfold*  *Murray Robertson*  *Digital Platform research fellow at The University Strathclyde on the @EPSRC\_CMAC Hub project.* |

Interest in TB

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| --- | --- | --- |
| Code | Definition | Example |
| TB (TB) | Mentions TB (#endTB, #stopTB) or tuberculosis | *@jessicabaiget*  *Jessica Baiget*  *I am a postdoctoral researcher working in the @opensourceTB project at University of Sydney in @MatToddChem group.* |

Interest in Open Science

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| Code | Definition | Example |
| Open science (OS) | Mentions open science, open source, open access, open research, open drug discovery, preprints, open peer review  Includes crowdsourcing but **not** crowdfunding  Does **not** include science communication/journalism alone | *@michelle1barker*  *Michelle Barker (she/her)*  *Open Science strategy/system change, research software, data science, workforce, careers/skills,community, science/tech policy, collaboration, networks* |

Gender Identity

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| Code | Definition | Example |
| Male (M) | He/him pronouns in bio or used in profiles on website  Mr  Self-describes as man, boy, etc | *@johnkavouris*  *John kavouris, chemistry person*  *Process Chemist. bicycles, motorcycles, catalytic cycles. Check out this preprint while you're here👇🏼! He/Him* |
| Female (F) | She/her pronouns in bio or used in profiles on website  Mrs/Miss/Ms  Self-describes as woman, girl, lady, etc | *@siouxsiew*  *Dr Siouxsie Wiles*  *Microbiologist & Associate Professor at the University of Auckland. Loves Lego. She/her. TEDx talk: https://t.co/BX1L28JZmw Kids show: https://t.co/TI2p4aoV0F* |
| Genderfluid or non-binary (NB) | They/them or alternate pronouns (e.g. xe/xem) in bio or used in profiles on website  Self-describes as NB, non-binary, genderfluid, etc |  |
| Indeterminate (I) | Cannot determine from bio alone – no pronouns or titles, no self-description. | *@pwk2013*  *Peter Kenny*  *Slayer of soucouyants (and metrics), MSF supporter, aspiring citizen of the world 🇹🇹🇬🇧🇧🇷* |

