REGISTRATION AND REQUEST COLLABORATION

GCAT Genomes for Life

GCAT Registration number

Date of registration

To be filled by GCAT

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REGISTRATION AND REQUEST - COLLABORATION

Please fill in this form with your personal information, project description and sample and/or data requirements.

PRINCIPAL INVESTIGATOR DETAILS

PERSONAL INFORMATION

Name:

Surname:

Position held:

Telephone number:

Email address:

INSTITUTION INFORMATION

Institution / Industry:

Department:

Address:

City:

Country:

PUBLICATIONS OF THE LAST 5 YEARS (5 maximum; please include PMID – PubMed ID)

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PROJECT INFORMATION

PROJECT TITLE

Please ensure that "GCAT" is included in the title

PROJECT DESCRIPTION

Maximum 200 words – the project abstract and PI name will be published on the GCAT website

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HYPOTHESIS

Maximum 100 words

OBJECTIVES

Maximum 100 words

JUSTIFICATION FOR COLLABORATION WITH GCAT (Scientific value and rationale for collaborating with the GCAT cohort)

Maximum 100 words

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FUNDING

☐ Principal Investigator (PI) with funding

- ☐ National Proposal:
- ☐ European Proposal:

☐ Principal Investigator (PI) without funding

**If funding is available, please provide the supporting documentation*

PROJECT PERIOD

☐ 1 year

☐ 3 years

☐ Other *(please specify)*:

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SAMPLE REQUEST (Samples are limited due to their scarcity and value. The use of biological samples is subject to availability and approval)

BIOLOGICAL SAMPLES

Time period

- ☐ Baseline (2014-2018) (n= 19,225; Live cells, buffy coat, DNA, Plasma and Serum (PSA))
- ☐ 2020 (n= 3,924; buffy coat, DNA, and Plasma (EDTA))
- ☐ 2021 (n= 1,090; buffy coat, DNA, and Plasma (EDTA and PSA))
- ☐ 2023 (n= 1,449; buffy coat, DNA, and Plasma (EDTA and PSA))

Type of samples

☐ **Buffy coat**

Number of samples:

Quantity (ul):

☐ **DNA**

Number of samples:

Quantity (ul):

☐ **Plasma**

Number of samples:

Quantity (ul):

☐ **Serum**

Number of samples:

Quantity (ul):

☐ **Live cells**

Number of samples:

Quantity (cels):

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DATA REQUEST

The following section provides a comprehensive description of all variables available within GCAT.

GCAT QUESTIONNAIRES

BASELINE (2014-2018), n=19,225

☐ **Demographics-Socioeconomics Characteristics**

Sex, Age, Vital Status *(Death)*, Birthplace, Ethnicity, Laterality, Civil Status, Household Composition, Education Level, Income, Healthcare Preference, Place of Residence, Adoption (if applicable), Rurality

☐ **Family Structure and Background**

Parents' Age, Number and Sex of Siblings, Twins Status, Offspring Sex

☐ **Anthropometric Measures**

Weight and Height, Hip Circumference, Waist Circumference

☐ **Biological Measures**

Blood Pressure and Pulse

☐ **Self-Reported Diagnoses**

Personal Medical History and Age at Diagnosis

☐ **Self-Reported Medication Use**

Drug, Active Principle *(ATC code)*, Associated Disease, Treatment Duration

☐ **Self-Reported Family Medical History**

Family History of Diseases and Age at Diagnosis

☐ **Health-Related Variables**

Self-Perceived Health Status, Weight History, Birth Weight, Type of Delivery, Medical Tests *(Colonoscopy, Spirometry, Densitometry, Biopsy, Electrocardiogram)*, Asthma Questionnaire, Screening Tests *(Faecal Test, Mammography, Cytology, PSA)*

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☐ **Mental Health**

Mental Health Inventory *(MHI-5)*, Incapacity

☐ **Women's Health**

Menstrual History, Pregnancy *(Outcome, Year of Pregnancy and Singleton or Multiple Pregnancy)*, Offspring Characteristics *(Breastfeeding, Delivery Type, Sex)*, Contraceptive Use, Hormonal Treatment and Duration

☐ **Men's Health**

Prostate Medication and Treatment Duration

Lifestyles Factors *(select all that apply, or only the ones relevant to your project)*

☐ Physical Activity – Walking, Sport *(Type, Duration, and Frequency)*, Housework, Stair Climbing, Sedentary Behaviour, METs Hour per Week

☐ Alcohol Consumption – Frequency, Historical Consumption, Alcohol Consumption during Meals, Type of Alcohol, Frequency and Number of Standard Drinks per Week

☐ Tobacco – Smoking Status, Type of Tobacco, Quantity, Dependence, Frequency, Duration of Consumption, Passive Smoker, Pack-Years

☐ Dietary Habits – Last Meal, PREDIMED Score, Coffee and Tea Intake, Food Frequency and Type *(Fruit, White and Red Meat, Fish, Pasta, Potato, Bread, Vegetables, Legumes, Cold Meats, Dairy Products, Eggs, Sweets)*

☐ **Social Network**

Direct and Indirect Social Relationships with Family and Friends

☐ **Occupational Environment**

Employment Status, Number of Jobs in the Last Year, Job Position, Job Title, Work-Related Physical Activity, Job Duration, Working Hours and Shift Work

☐ **Transport and Mobility**

Type of Transportation, Duration of Travel

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☐ **Circadian Rhythm**

Sleep Schedule, Napping Habits

☐ **Phototype and Sun Exposure**

Phototype Questionnaire *(Eye, Hair and Skin Colour, Freckles, Sunburn)*, Sun Exposure With or Without protection

☐ **Food Supplements**

Type of Supplement

☐ **Interview Date**

FOLLOW-UP 2018, n=8,927

☐ **Demographics and Socioeconomic Characteristics**

Sex, Date of Birth, Birthplace of Parents and Grandparents, Residential Address

☐ **Self-Reported Diagnosis**

Personal Medical History and Age at Diagnosis

☐ **Self-Reported Drug Use**

Drug Type and Associated Disease

☐ **Health-Related Variables**

Self-Perceived Health Status, Weight, Asthma Questionnaire, Screening Tests *(Faecal Test, Mammography, Cytology and PSA)*

☐ **Mental Health**

Mental Health Inventory *(MHI-5)*, Incapacity

☐ **Women's Health**

Menstrual History, Contraceptive Use, Hormonal Treatments and Duration

☐ **Men's Health**

Prostate Diseases and Medication

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Lifestyles Factors ***(select all that apply, or only the ones relevant to your project)***

☐ Physical Activity – Walking, Sport (Type, Duration and Frequency), Housework, Stairs Climbing, Sedentary Behaviour, METs Hour per Week

☐ Alcohol – Frequency, Historical Consumption, Type of Alcohol, Frequency and Number of Standard Drinks per Week

☐ Tobacco – Smoking Status, Type of Tobacco, Quantity, Dependency, Frequency, Duration of Consumption, Pack-Years

☐ Dietary Habits – Meal Schedule, Food Frequency Questionnaire

☐ **Social Network**

Direct and Indirect Social Relationships with Family and Friends

☐ **Occupational Environment**

Employment Status, Work-Related Physical Activity, Working Hours, Shift Work (Night or Rotating), Work Address

☐ **Circadian Rhythm**

Sleep Habits, Sleep Schedule, Snoring, Bedroom Light Exposure, Morningness–Eveningness Preference

☐ **Phototype and Sun Exposure**

Phototype Questionnaire *(Eye, Hair and Skin Colour, Freckles, Sunburn, Suntan, Ethnicity)*

COVICAT STUDY – FOLLOW-UP COVID-19 2020, n=9,493

☐ **Demographics-Socioeconomics**

Age, Gender, Place of Residence, Education Level, Income, Birthplace, Birthplace of Parents and Grandparents

☐ **SARS-CoV-2 Infection**

Diagnosis, Hospitalisation, Treatment, Contact with SARS-CoV-2-infected Individuals

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☐ **Lockdown Conditions**

Place of Lockdown, Household Composition (with whom), Housing and Space Characteristics, Time Spent Outside the Home, Type of Protective Measures Used, Transport and Mobility

☐ **COVID-19 Symptoms**

Fever, Headache, Fatigue, Muscle or Joint Pain, Cough, Breathing Difficulties, Runny Nose, Loss of Taste and/or Smell, Nausea/Vomiting, Diarrhoea, Chest Pain, Skin Rash

☐ **Self-Reported Chronic Diseases**

Chronic Bronchitis/COPD, Rhinitis, Eczema, Food Allergies or Intolerances, Other Respiratory Diseases, Hypertension, Cardiovascular Disease, Diabetes, Digestive Disease, Gynaecological Diseases, Joint Disorders, Cancer, Anxiety and/or Depression, Mental Health Disorders, HIV or Immunodeficiency Conditions, Chronic Liver Diseases, Chronic Kidney Diseases, Autoimmune Diseases, Other Chronic Conditions

☐ **Mental Health and Psychosocial Impact**

Difficulties During Lockdown *(Social Relationships)*, Social Support Received, Economic Burden, Access to Essential Products, Anxiety Related to Pandemic, HADS *(Hospital Anxiety and Depression Scale)*, COVID-19-Related Information

☐ **Health-Related Variables**

Pregnancy Status, Height, Weight, Weight Before COVID-19 Pandemic, Asthma Questionnaire

Lifestyle Factors *(select all that apply, or only the ones relevant to your project)*

☐ Physical Activity – Type, Frequency and Duration, Sedentary Behaviour, Change in Physical Activity Habits

☐ Tobacco Use – Smoking Status, Quantity, Smoking History, Changes in Consumption During the COVID-19 Pandemic

☐ Alcohol Consumption – Habitual Consumption, Type of Alcohol, Changes During the COVID-19 Pandemic

☐ Circadian Rhythm – Sleep Duration, Sleep Duration Before the Pandemic, Changes During the COVID-19 Pandemic

☐ **Occupational Environment**

Essential Worker Status, Use of Personal Protective Equipment, Work-Related Changes Due to COVID-19, Work Management, Employment Status, Job Type, Duties, Company

☐ **Environmental Exposure**

Green Spaces Around the House, Noise Exposure *(Type and Intensity)*, Use of Candles and Incense

☐ **Other Factors**

Household Chores, Pet Ownership

COVICAT STUDY – FOLLOW-UP COVID-19 2021, n=7,065

☐ **Demographics and Socioeconomic Characteristics**

Age, Gender, Household Members *(Age, Healthcare Workers)*, Housing Type and Ownership, Educational Level, Income, Income Changes Since the COVID-19 Pandemic, Place of Residence, Changes in Residence Since the Pandemic, Housing Characteristics, Birthplace, Birthplace of Parents and Grandparents, Dependent Care Responsibilities, Type of Healthcare Coverage, Delays or Difficulties in Accessing Healthcare

☐ **SARS-CoV-2 Infection**

Diagnoses *(Date and Number of Episodes)*, Treatment, Testing, Hospitalisation, Contact with Infected Individuals, Protection Measures, Knowledge of Transmission Routes

☐ **Lockdown Conditions**

Place of Lockdown, Housing and Space Characteristics, Time Spent Outside the Home, Type of Protection Measures, Positive Aspects of the Pandemic

☐ **SARS-CoV-2 Vaccination**

Vaccination Status, Number of Doses, Vaccine Type, Vaccination Dates, Side Effects, Reason for Not Being Vaccinated

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☐ **COVID-19 Symptoms**

Fever or Low-Grade Fever, Dry Cough, Fatigue or Unusual Tiredness, Loss of Taste and/or Smell, Nasal Congestion, Conjunctivitis, Sore Throat, Headache, Muscle or Joint Pain, Skin Rashes, Nausea/Vomiting, Diarrhoea, Chills/Vertigo/Dizziness, Dyspnoea/Shortness of Breath, Loss of Appetite, Confusion or Loss of Speech of Movement, Persistent Chest Pain or Tightness

☐ **Long COVID**

Duration of Symptoms and Sequelae, Presence of Sequelae, Cardiovascular, Respiratory, Renal, Dermatological, Dry eyes and/or Mouth, Cognitive and Neurological, Psychological and Psychiatric, Muscular, Haematological, Endocrine, Menstrual Disturbances

☐ **Self-Reported Chronic Disease (Including Time of Diagnosis)**

Chronic Bronchitis/COPD/Emphysema, Other Respiratory Diseases, Hypertension, Cardiovascular Diseases, Diabetes, Digestive Diseases, Chronic Liver Disease, Gynaecological Disease, Joint Disorders, Rheumatoid Arthritis, HIV or Immunodeficiency Conditions, Cancer *(Type, Time of Diagnoses, Treatment Status and Type)*, Mental Health Disorders and Addictions, Chronic Kidney Disease, Other Chronic Conditions

☐ **Mental Health and Psychosocial Factors**

Anxiety, Nervousness, Worry, Loss of Interest, Depression, Social Support *(FSSQ)*, HADS *(Hospital Anxiety and Depression Scale)*, Socialisation, Fear of COVID-19 Scale *(FCV-19S)*, Exposure to Violence *(Type and Injuries)*, Traumatic Experiences, COVID-19–Related Information, Perceived Stress Scale *(PSS-10)*, PTSD Checklist *(PCL-5)*, Mental Health Diagnoses *(Depression, Bipolar Disorder, Panic Disorder, Anxiety Disorders, Psychotic Disorders Including Schizophrenia, Alcohol Use Disorders, Drug Use Disorders, Eating Disorders, Other)*

☐ **Health-Related Variables**

Pregnancy Status, Height, Weight, Weight Before COVID-19 Pandemic, Health Status, Asthma Questionnaire

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Lifestyle Factors ***(select all that apply, or only the ones relevant to your project)***

- ☐ Physical activity – Type, Frequency and Duration, Sedentary Behaviour, Change in Habits, Use of Electronic Devices
- ☐ Tobacco Use – Smoking Status, Quantity, Smoking History, Changes During the COVID-19 Pandemic
- ☐ Alcohol Consumption – Habitual of Consumption, Type of Alcohol, Changes During the COVID-19 Pandemic
- ☐ Circadian Rhythm – Sleep Duration, Sleep Duration Before the Pandemic, Sleep Problems, Use of Sleep Medication, Meal Schedule

☐ **Occupational Environment**

Employment Status, Type of Work *(On-site/Teleworking)*, Telework Conditions *(Heating, Noise, Lighting, Dedicated Workspace, Furniture, Ventilation, Digital Equipment, Institutional Teleworking Support)*, Use of Personal Protective Equipment *(Gloves, Masks, Eye Protection)*, Changes in Working Hours During the Pandemic, Night Shifts

☐ **Transport and Mobility**

Type of Transportation

☐ **Environmental Exposure**

Green and Blue Spaces Around Home and Workplace, Noise Exposure *(Type and Intensity)*

☐ **Other Factors**

Household Chores

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COVICAT STUDY – FOLLOW-UP COVID-19 2023, n=5,096

☐ **Demographics and Socioeconomic Characteristics**

Age, Gender, Household Composition *(Number of Household Members and Age)*, Education Level, Income, Income Change Since COVID-19 Pandemic, Dependent Care Responsibilities, Stable Relationship Status, Delays or Difficulties in Accessing Healthcare Services

☐ **SARS-CoV-2 Infection**

Diagnoses *(Date and Number of Episodes)*, Treatment, Hospitalisation

☐ **Vaccination**

COVID-19 Vaccination Status, Number of Doses, Vaccine Type, Vaccination Dates, Reasons for Accepting or Refusing Vaccination

☐ **COVID-19 Symptoms**

Tiredness or Fatigue, Confusion or Loss of Speech or Movement, Conjunctivitis, Diarrhoea, Skin Rashes, Dyspnoea or Shortness of Breath, Abdominal Pain, Headache, Sore Throat, Joint Disorder, Muscle Pain, Persistent Chest Pain or Tightness, Chills/Vertigo/Dizziness, Fever, Rapid or Pounding Heartbeat, Nausea or Vomiting, Loss of Appetite, Loss of Taste or Smell, Sleep Problems, Tingling Sensations, Dry Cough, Other Symptoms, Worsening of Symptoms After Physical or Mental Activity, Date of Symptom Onset

☐ **Long COVID**

Presence and Duration of Symptoms and Sequelae *(Fever or Low-Grade Fever, Abdominal Pain, Headache, Tiredness or Unusual Fatigue, Chills/Vertigo/Dizziness, Tingling Sensations, Loss of Taste or Smell, Cardiovascular Sequelae, Respiratory Sequelae, Renal Sequelae, Dermatological Sequelae, Dry Eyes and/or Mouth, Cognitive and Neurological Sequelae, Psychological and Psychiatric Sequelae, Muscular Sequelae, Hematological Sequelae, Endocrin Sequelae, Digestive Sequelae, Menstrual Disorders, Other Sequelae)*

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☐ **Self-Reported Chronic Diseases**

Chronic Bronchitis, COPD or Emphysema, Other Respiratory Diseases, Hypertension, Heart Disease *(Myocardial Infarction or Angina Pectoris)*, Diabetes, Digestive Diseases, Chronic Liver Diseases, Gynaecological Diseases, Joint Disorders or Rheumatism, Rheumatoid Arthritis, Other Autoimmune Diseases, HIV or Other Immunodeficiency Conditions, Cancer, Mental Health Disorders and/or Addictions, Chronic Kidney Disease, Ever Doctor-Diagnosed Asthma, Other Diseases

☐ **Mental Health and Psychosocial Factors**

Anxiety, Nervousness, Worry, Loss of Interest, Depression, Family Mental Health History, Perceived Stress Scale *(PSS-10)*, UCLA Loneliness Scale, Duke-UNC Functional Social Support Questionnaire *(FSSQ)*, Brief Resilience Scale *(BRS)*, Hospital Anxiety and Depression Scale *(HADS)*, Exposure to Violence *(Type, Injuries and Support Received)*, Traumatic Experiences, Post-Traumatic Stress Disorder Checklist *(PCL-5)*, Personality Traits, Mental Health Diagnoses *(Depression, Bipolar Disorder, Panic Attacks or Crises, Anxiety Disorders, Psychotic Disorders Including Schizophrenia, Alcohol Use Disorders, Drug Use Disorders, Eating Disorders, Other)*

☐ **Health-Related Variables**

Pregnancy Status, Height, Weight, Weight Before the COVID-19 Pandemic, Health Status, Respiratory Infections, Influenza

Lifestyle Factors *(select all that apply, or only the ones relevant to your project)*

☐ Physical activity – Type, Frequency and Duration, Sedentary Behaviour, Change in Habits, Use of Electronic Devices

☐ Tobacco Use – Smoking Status, Quantity, Smoking History, Changes in Consumption Since the COVID-19 Pandemic

☐ Alcohol Consumption – Habitual Consumption, Type of Alcohol, Changes Since the COVID-19 Pandemic

☐ Circadian Rhythm – Sleep Duration, Changes Since the COVID-19 Pandemic, Sleep Problems, Use of Sleep Medication, Meal Schedule, Chronotype

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☐ **Ageing and Cognitive Health**

Changes Since the COVID-19 Pandemic in Physical or Cognitive Capabilities, Medical Visits, Family History of Alzheimer's Disease

☐ **Occupational Environment**

Employment Status, Profession, Job Duties, Company, Work Shifts, Teleworking, Night Shifts

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LINKED ELECTRONIC HEALTH RECORDS (Yearly updated since 2010 – please specify the codes requested, where applicable) (n=18,434)

Clinical Diagnosis and Procedures

☐ **ICD-10 Encoded Medical Diagnoses**

Primary Care, Hospital and Emergencies

Requested codes:

☐ **ICD-10 Encoded Medical Procedures**

Hospital Admission and Emergency Care

Requested codes:

☐ **Hospitalisation Episodes**

Including hospital admission and emergency visits

Medication and Pharmacy Records

☐ **ATC-Encoded Pharmacy Records**

Prescription and Drug Use

Requested codes:

Laboratory and Clinical Measurements (Primary Care)

☐ **Laboratory Tests**

Requested tests:

☐ **Spirometry Measurement**

☐ **Electrocardiogram (ECG) Measurements**

☐ **Body Mass Index (BMI)**

☐ **Smoking Status**

☐ **Blood Pressure Measurements**

☐ **Vaccination Records**

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Demographic and Vital Information

☐ **Demographic Information**

Birth Date, Sex, Region, Vital Status *(Alive, Deceased, Moved)*

☐ ***COVID-19 Related Information***

Test Results and COVID-19-Related Deaths

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REGISTERED CAUSE OF DEATH (Official records from the National Statistics Institute)

☐ **Demographic Information**

Region of Birth, Region of Residence and Region of Death

☐ **Date of Death**

☐ **Cause of Death**

☐ **Cause of Death Classification**

Immediate, Intermediate, Fundamental or Other Contributing Causes

☐ **Vital Status**

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OMIC DATA

☐ **Genotype Data**

Available for the entire cohort

☐ **Whole Genome Sequencing (WGS)**

Sub-cohort, n = 808

☐ **Targeted Sequencing of COVID-19-Related Genes**

52 genes, n = 2,294

Epigenetic Data ***(select all that apply, or only the ones relevant to your project)***

Sub-cohort

☐ Type 2 Diabetes Epigenetics Dataset – Baseline Samples, n = 400

☐ Other Epigenetic Profiles – Baseline Samples, n = 1,005

☐ Other Epigenetic Profiles – COVICAT Study 2023, n = 300

Proteome Data (OLINK Platform)

Sub-cohort

☐ Inflammation Panel – Baseline Samples, n = 880; 92 proteins

☐ Cardiometabolic I and II, and Inflammation I and II – COVICAT Study 2020 and 2023 (paired samples), n = 171; 1,467 proteins

☐ **Metabolome Profiles**

Sub-cohort, n=5,200; 191 Metabolites

☐ **Microbiome Profiles**

n=2,416

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ENVIRONMENTAL EXPOSURE (GIS DERIVED EXPOSOME) (2000-2020), n=18,832

- ☐ **Deprivation index**
- ☐ **Air pollution**

  NO_2, PM_{10}, $PM_{2.5}$, O_3
- ☐ **Built Environment**

  NDVI, MSAVI, Green Spaces, Blue Spaces, Imperviousness, Light-at-Night, Walkability
- ☐ **Temperature**

  Mean, Minimum, Maximum
- ☐ **Urbanicity**

  Population Density
- ☐ **Environmental Noise**

  Traffic Noise
- ☐ **Ultraviolet Radiation**

  Mean, Maximum

ETHICAL AGREEMENT INVOLVING GCAT

Do you have an ethics approval from your institution that includes the use of GCAT data?

- ☐ Yes
- ☐ No

**If you have an approved ethical agreement from your institution that includes GCAT, please ensure it is submitted to the GCAT*