



**CS TRACK**  
Investigating Citizen Science

# Investigating the potential of citizen science to respond to emerging challenges - The case of COVID-19

Yaela Golumbic, Anne Turbe, Tslil Farchi, Reuma De-Groot



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# Study aims

Examine how citizen science projects responded to emerging challenges to conduct Covid-19 related research

Investigate the scope, characteristics and

## Full report:

Turbe, A., Golumbic, Y., Farchi, T., & De - Groot, R. (2021). Investigating the potential of citizen science to respond to emerging challenges. A COVID-19 review and case study analysis. Zenodo. <https://doi.org/10.5281/zenodo.6034585>

# Study design

1

## Website content analysis

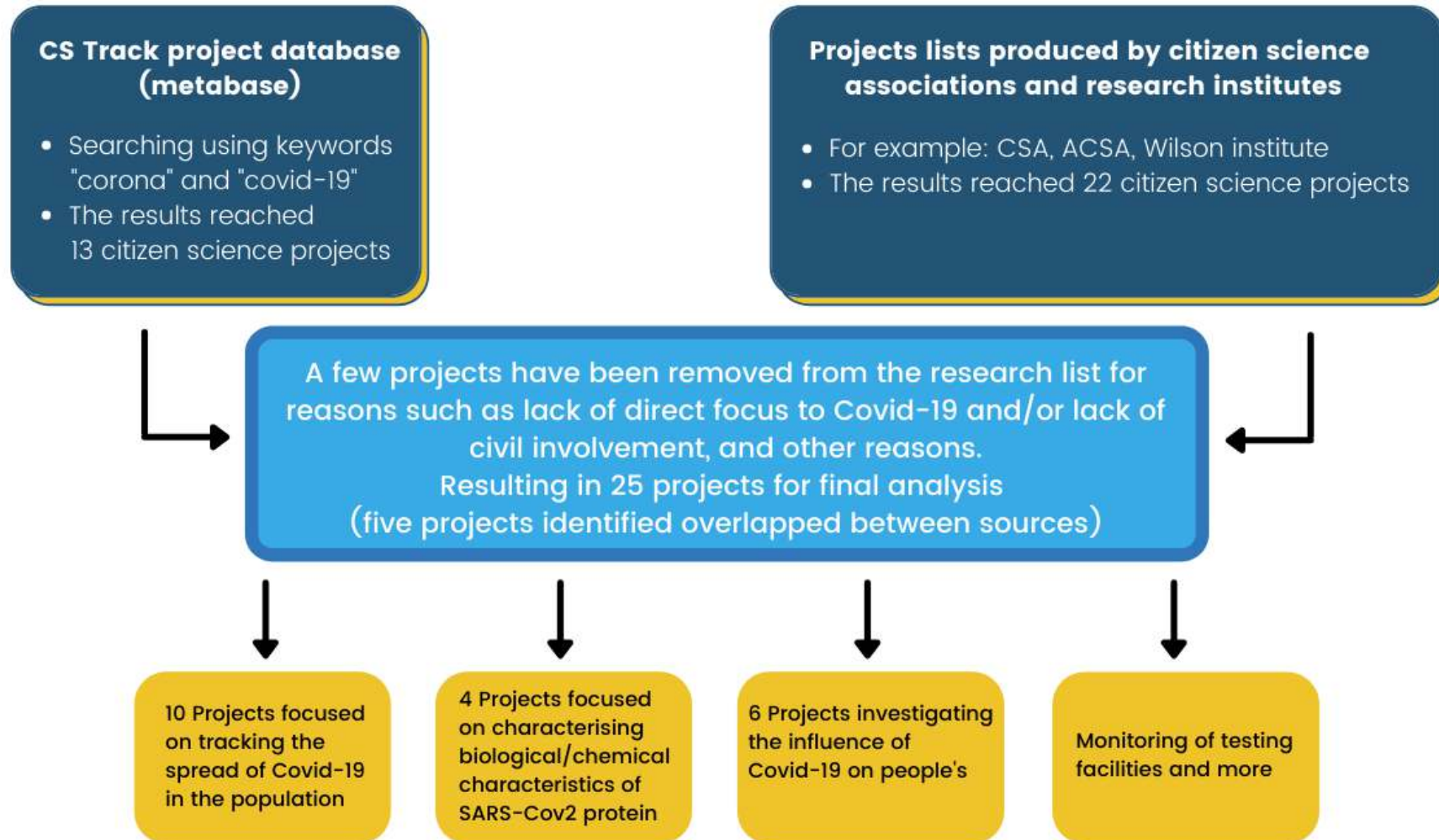
Understand project characteristics: aims, design, geographical distribution and citizen engagement.

2

## Detailed case studies

In-depth investigation of project development process, practices, challenges and opportunities

# Methodology – Project identification and selection



# Methodology – List of characteristics

## Project focus and scope

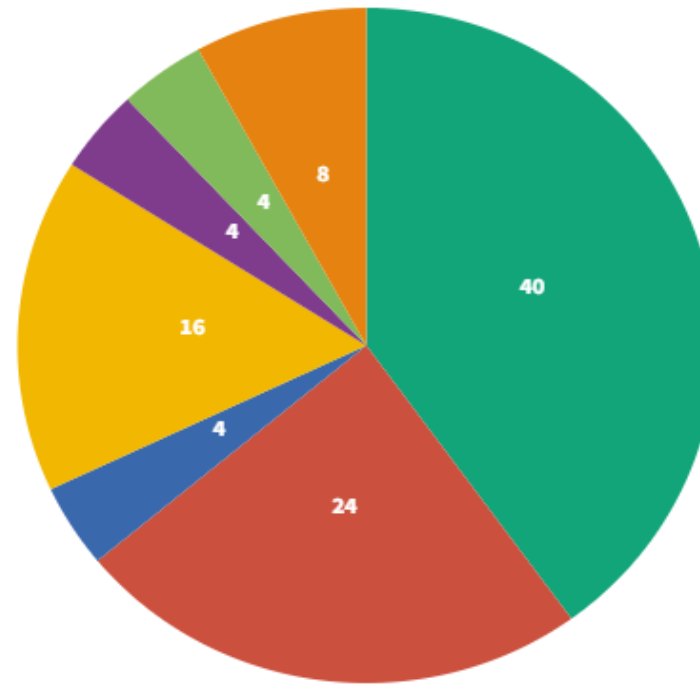
- Primary aim and novelty
- Geographical origin and scope
- Primary research domain and leadership

## Design of citizen science

- Level of engagement and tasks
- Characteristics of engagement
- Data required and routes to involvement
- Data accessibility and validation

# Results - Aims

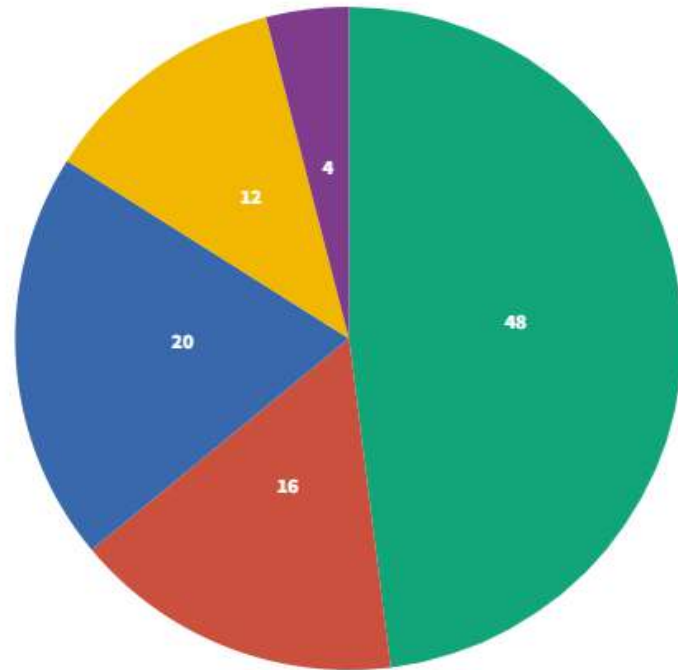
Primary aim



- Tracking spread of Covid-19 in the population
- Influence of Covid-19 on well-being
- Covid-19 risk factors
- SARS-Cov2 biological chemical characteristics and treatmentes
- Influence of Covid-19 on communities
- Contact tracing
- Other

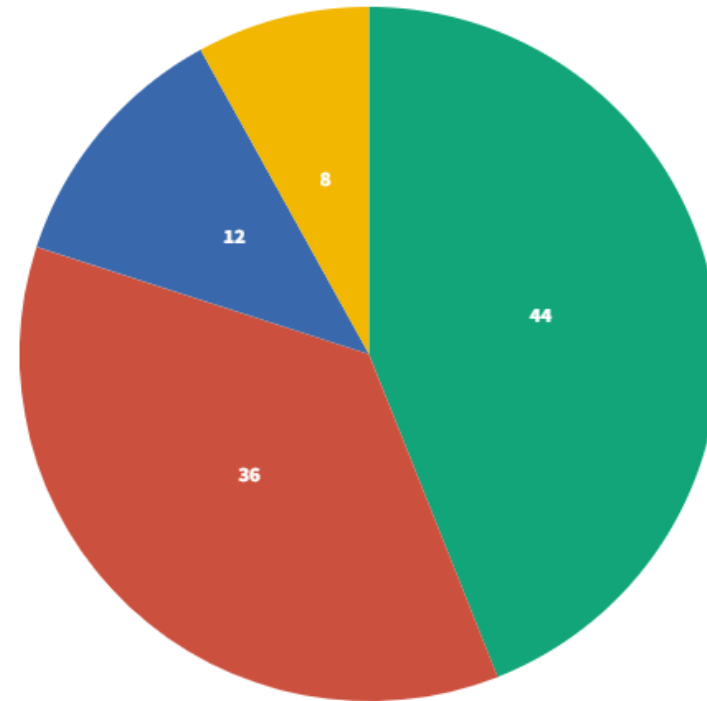
# Results - Scope

Geographical scope



- Global
- Regional
- National
- Local
- N/a

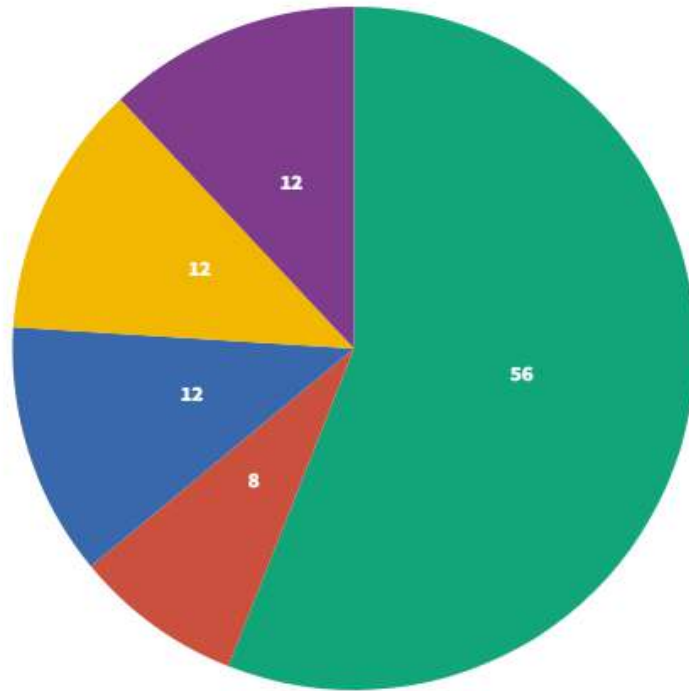
Lead organisation region



- Europe
- North America (USA and Canada)
- Rest of the world
- N/a

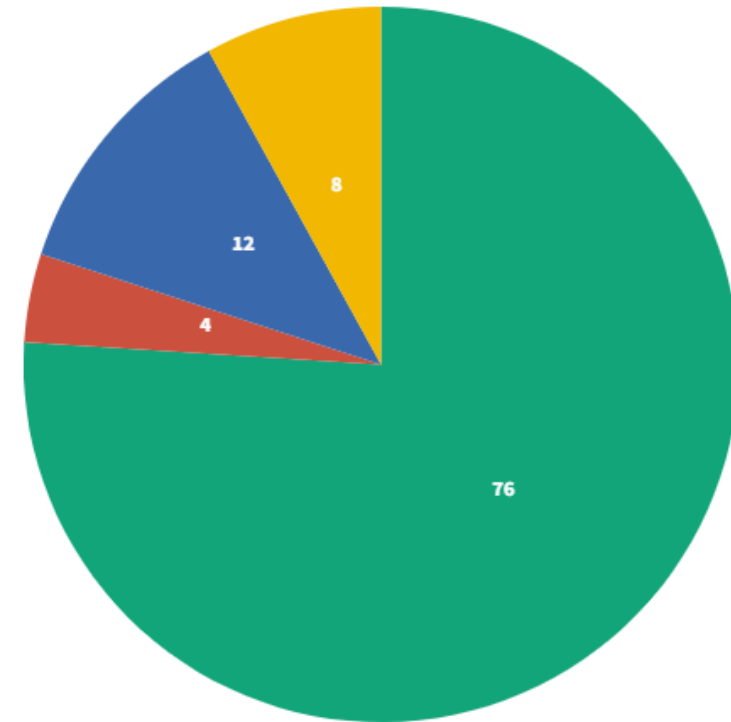
# Results - types

Lead organisation type



- Academic
- Commercial organisation
- Public body, hospital
- Non-governmental organisation
- N/a

Type of engagement

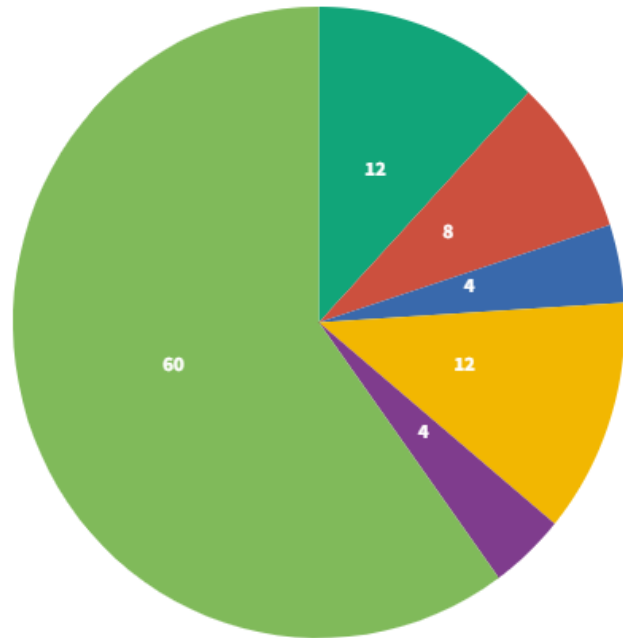


- Contributory
- Collaborative
- Co-created
- Other



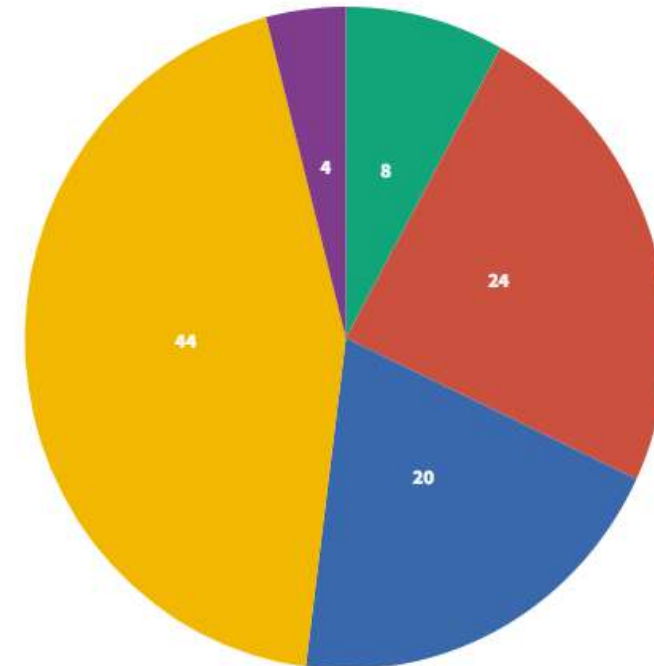
# Results - Participation

Task



- Data processing
- Problem-solving
- Self-assessment (text)
- Self-tracking data
- Surveillance/Monitoring
- Survey

Frequency of involvement



- Once off
- Daily
- Weekly
- Opportunistic
- N/a

# Summary - Content analysis



Projects mainly aimed to investigate the spread and impact of covid in the community



Most projects were crowd-sourced surveys, with little complex tasks



The effort required by participants was non-negligible, with repeated inputs at frequent intervals often requested, although each input was expected to take little time.



Most project were large at scope. This may be due, to biases in our project identification



Limited data accessibility and absence of information about data uptake and data validation

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# Case studie



# Case studies (7)

Project	Primary aim	Region
<b>COVID-PHYM</b>	SARS-Cov2 biological and chemical characteristics and treatments	Europe
<b>Open Pandemics</b>	SARS-Cov2 biological and chemical characteristics and treatments	North America
<b>Safecast</b>	Monitoring material resources	Global
<b>Quantified Flu</b>	Tracking spread of Covid-19 in the population	Global
<b>Covid Open Survey</b>	Tracking spread of Covid-19 in the population Influence of Covid-19 on well-being	Europe
<b>CovidWatcher</b>	Influence of Covid-19 on communities	North America
<b>Outbreaks Near Me (formerly Covid Near You)</b>	Tracking spread of Covid-19 in the population	North America

# Methodology – interview plan

## Project design

- Motivation
- Previous experience
- Partnership
- Resources needed

## Aims

- Research questions
- Task design
- Participatory vision
- Quality assurance

## Participant engagement

- Publication
- Levels of engagement
- Participation stats
- Result dissemination

## Outcomes

- Usefulness of method
- Meeting goal
- Main successes
- Future plans

# Recommendation #1

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When building your project, **cooperate with projects and/or people** that are already involved in the subject of research.



## Recommendation #2

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**Invest in the citizen science infrastructure early on, before the next emergency will arrive.**



## Recommendation #5

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**Keep it simple**, this will help make the project more accessible and enlist more users, rather than daunting them off through complex or overly long surveys.

