

# Innovation with participation



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# Open science

- Knowledge Society is governed by science and technology.
- **Need for scientific and societal solutions**
- Democracy needs scientifically literate citizen.
- ***No innovation without participation.***
- New ways of communication.
- Citizens want to engage.





# Challenges to science

- Science success criteria.
- Opening Science (process) to participation.
- Training a new generation of OPEN scientists.
- Infrastructure, time & money.
- A joint strategy / plan.



## A moon-shot?





# Knowledge and motivation

**A consistent picture:**

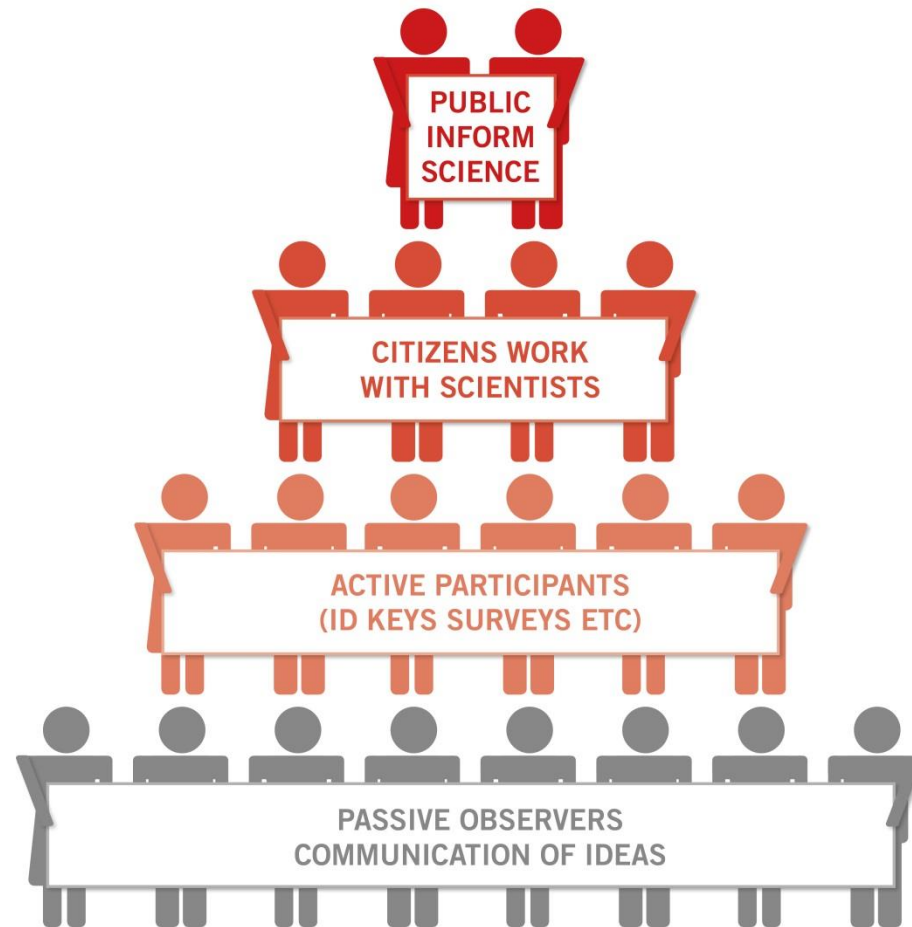
**People want to know more, but  
do NOT know where or how to  
gain access to knowledge.**



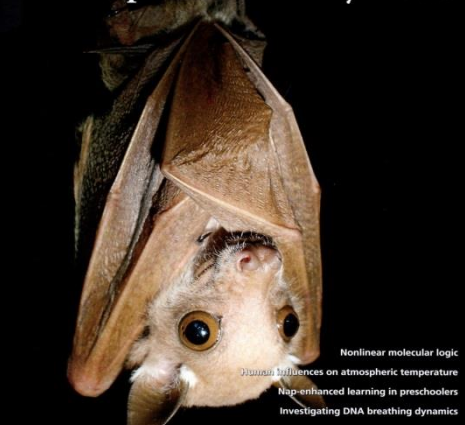
Source: UK (NHM-MORI poll 2010), Germany  
(Jugendreport Natur 2010, BMU 2011)



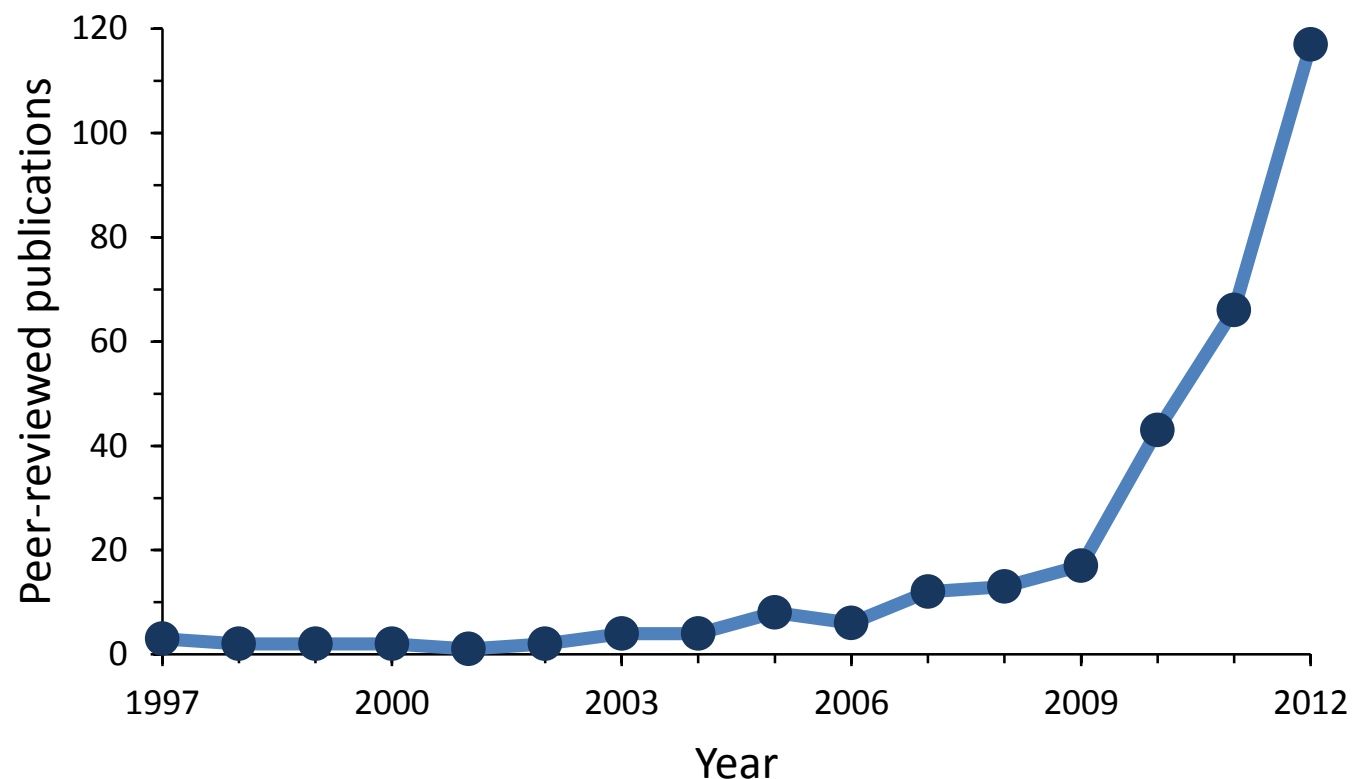
# Open (Citizen) Science



## Malaria parasite diversity in bats



# Citizen Science = publications growth

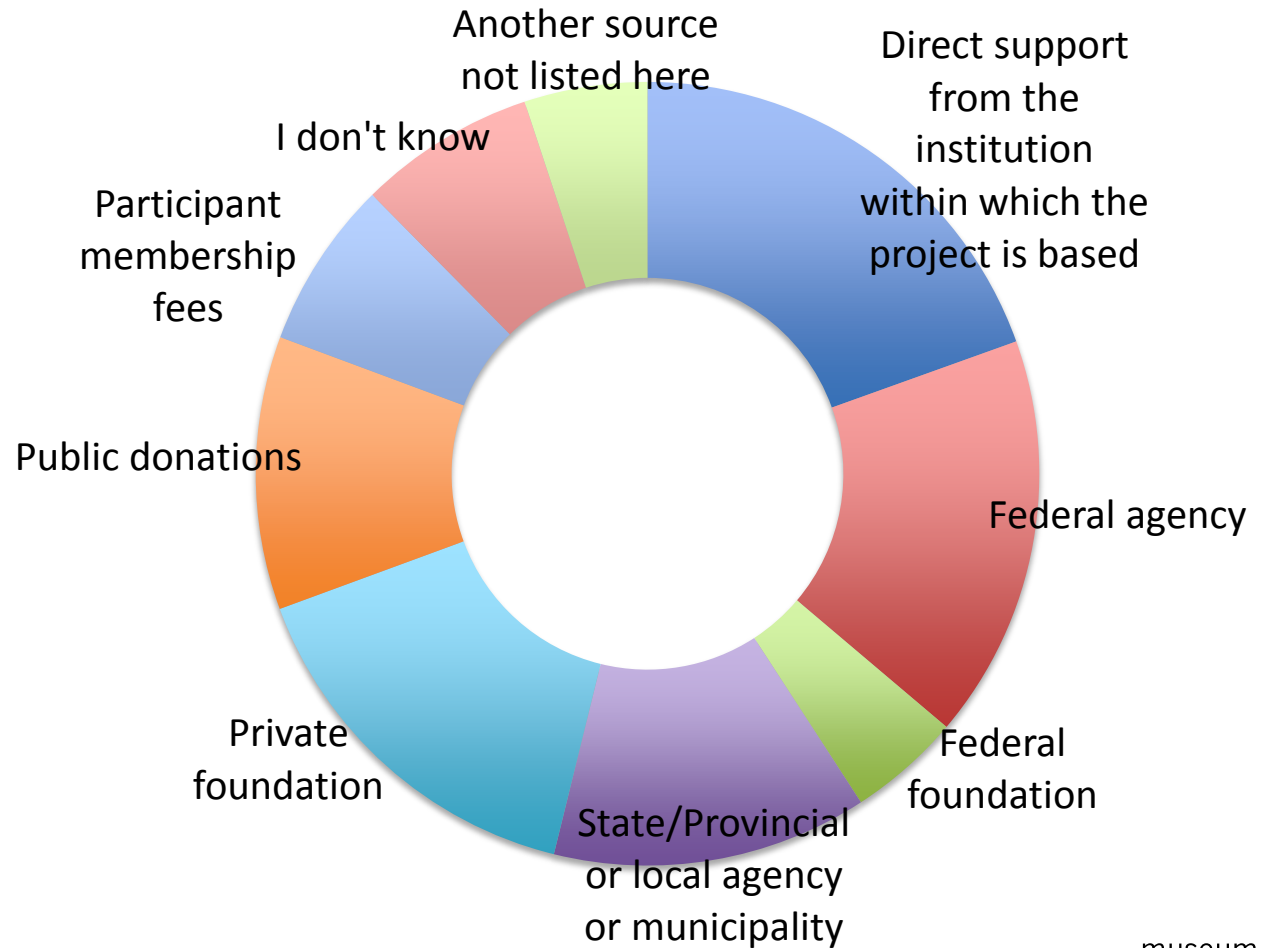


Quelle: *Web of Science* ; search terms citizen science, public participation in scientific research, participatory action research, volunteer monitoring

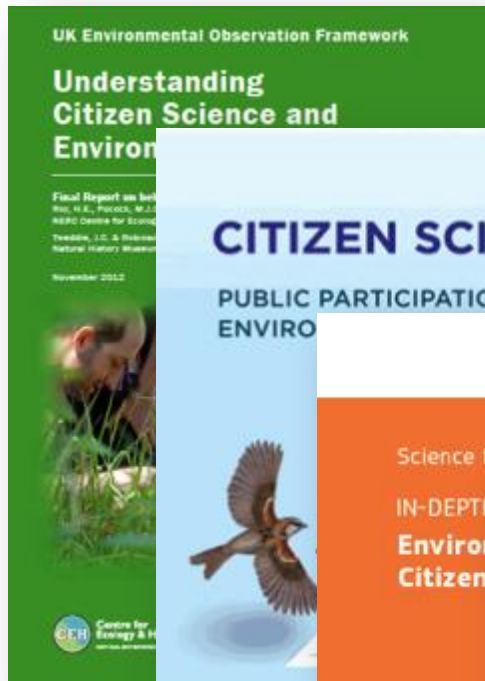
CitizenScienceAssociation.org



# ...and the funding comes in the USA from ...



# Global (policy) agenda



Citizen Science Association - US









# Innovation with participation

## Drivers:

- Societal wants
- Scientific needs
- Open minds
- Advances in technology & communication
- SCIENCE finding new ways of working





# Innovation with participation

## Achieving:

- Sustainable living
- Scientifically literate citizenry
- Dynamic-adaptive society
- Open innovation
- Open science







# This changes everything: Digital Economy

- Digitised
- Deceptive
- Disruptive
- Dematerialised
- Demonetised
- Democratised





### Some weblinks:

MfN Berlin: <http://www.naturkundemuseum-berlin.de/>  
ECSA: <http://ecsa.biodiv.naturkundemuseum-berlin.de/>  
CSA: <http://citizenscienceassociation.org/>  
OPAL: <http://www.opalexplorenature.org/>  
<http://www.buergerschaffenwissen.de/>

Commisioner Moedas speech: [http://europa.eu/rapid/press-release SPEECH-15-5243\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm)