



HOW TO ENGAGE CITIZENS IN YOUR RESEARCH?

UNICA – EUTOPIA TRAIN WORKSHOP

Eline Livemont, Carina Veeckman & Sven De Boeck



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AGENDA

15:00 - 15:45 : Introduction to several communication tools, illustrated by hands-on examples from various citizen science projects (Carina & Sven)

- CIVEX: Bas Dikmans & Toon Vercauteren
- SBO-TESTEREP: Pieterjan Deckers

15:45 – 16:10: interactive session in breakout rooms – PART 1

Break

16:15 – 16:40: interactive session in breakout rooms – PART 2

16:40 – 17:00: Final wrap-up

SVEN DE BOECK - SCIENCE COMMUNICATOR

VUB SCIENCE OUTREACH OFFICE

- Popular science events
 - Science Day
 - Irisfeesten
 - VUB Doctoral Derby
- Writing trainings
- Citizen Science projects
 - Eye for Diabetes (Oog voor Diabetes)
 - Bugs 2 the Rescue



CARINA VEECKMAN – SENIOR RESEARCHER

IMEC-SMIT-VUB

- Background in communication sciences
- Experience in citizen science projects since 2016
- Member of the steering committee of Scivil
- 2 citizen science handbooks published in collaboration with Scivil

Citizen science projects

- hackAIR
- Climate stories



COMMUNICATION IN CITIZEN SCIENCE

HOW TO ENGAGE CITIZENS IN YOUR RESEARCH



Reflection on strategy development:

- How do I match the project objectives with communication?
- What is the level of engagement in my project?
- Will I apply a generic versus a targeted communication approach?

Reflection on tactics and tools:

- Should I use social media?
- How often should I send a newsletter?
- Which tool shall I use for recruiting participants, which tools shall I use for sustaining engagement?

WHAT IS CITIZEN SCIENCE

Citizen science is defined as scientific research undertaken wholly or partially by members of the public, often **in collaboration with or under the direction of professional scientists**.

Citizen science is a '**new**' form of science, in which members of the public **actively participate** in the research. Through it, citizens are no longer the target of **science communication**, but are actively engaged in the scientific process.

Citizen science can be applied in the **exact sciences, applied sciences and human sciences**. Citizen science is mostly initiated by academia, or community organisations – and less by public sector organisations or private companies.





COLLECTIVE AWARENESS
FOR AIR QUALITY





Aim:

Creating awareness about the local air quality (PM) and supporting pro-environmental behaviours

Target groups:

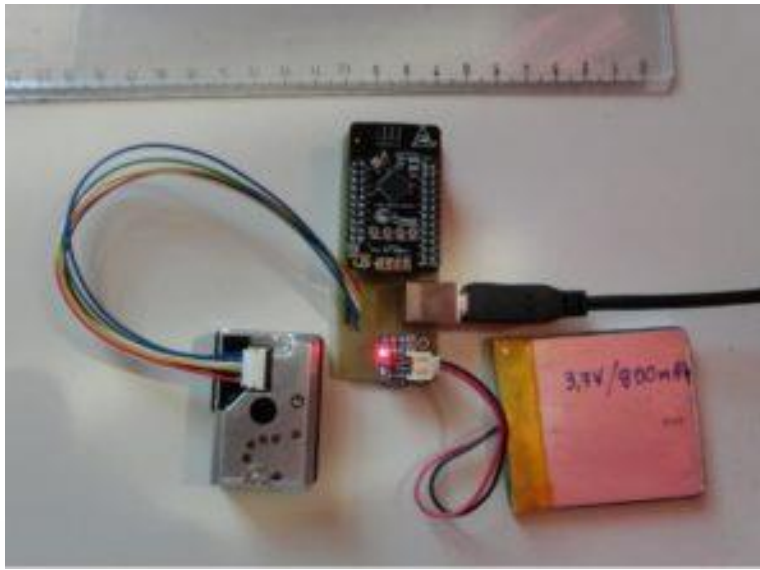
- Citizens of Brussels, Oslo, Berlin & Athens

Level of engagement: Participatory science / extreme citizen science

Coordinator: Draxis

Communication & engagement: ON:SUBJECT & VUB

Pilot partners: BUND & NILU



VIDEO TUTORIAL



TACTIC AND TOOLS: GAMIFICATION & REWARDS

- The integration or application of game-design elements in an application or activity with a view to making the task more enjoyable
 - Game-design elements in the hackAIR mobile application: collecting points and badges for observations (recognition and status)
 - Organisation of a contest “the best summer photo representing AQ” (recognition)
 - Organisation on measurement campaigns linked to specific events and activities: gather as many observations as possible within a given timeframe (challenge, competition, sense of a common purpose)
 - Air purifying plants in turn for participation in multiple surveys (intrinsic + extrinsic motivation)



GAMIFICATION & REWARDS – LESSONS LEARNED

Gamification

- You will mostly attract youngsters, and extrinsically driven people. It will only result into a small extra audience
- It can work counterproductive
- Only incorporate it when you have a well-thought through design, and necessary capacities and budget

Rewards

- Your citizen scientists do not necessarily be rewarded. Most of them are intrinsically driven. Coupons and vouchers might have an opposite effect.
- Choose an incentive that fits with the topical theme
- Co-author on a publication



klimaat verhalen





Aim:

An inclusive and creative approach to give a voice to youngsters (from diverse SES), through citizen science and the photo-voice method, on the topic of air quality.

Target groups :

- Youngsters in Brussels

Level of engagement: Distributed intelligence

Partners: VUB-SMIT, Maks vzw, Atheneum School Brussels

TACTICS & TOOLS – ENGAGING SCHOOLS

- Collaboration with an existing network specialized in conducting workshops with youngsters and storytelling
- Linkage between the teaching material and the project, look for cross-curriculum learning: STEM classes (or English classes)
- Make the lesson package modular, e.g. maximum of six lessons, with plenty of flexibility
- Offer the teacher support: organise the workshop yourself
- Accessibility:
 - Find a good workshop moderator
 - Multi-language
 - Organise the workshops at their school

EYE FOR DIABETES CITIZEN SCIENCE PROJECT



In the project **Oog voor diabetes (Eye for Diabetes)** the participants annotate abnormalities on retinal images. They are helping to build up a reference database of annotated images, which can be used to train an AI algorithm to recognize diabetic retinopathy in the future.

BUGS 2 THE RESCUE CITIZEN SCIENCE PROJECT



BUGS 2 THE RESCUE
CITIZEN SCIENCE

The citizen science project **Bugs 2 the Rescue** aims to broaden and enhance our knowledge of invasive alien aquatic plant species and their natural enemies in order to, in the long-term, implement more biological control management programs. Citizens are asked to examine 'morphological traits' and search for 'natural enemies'.

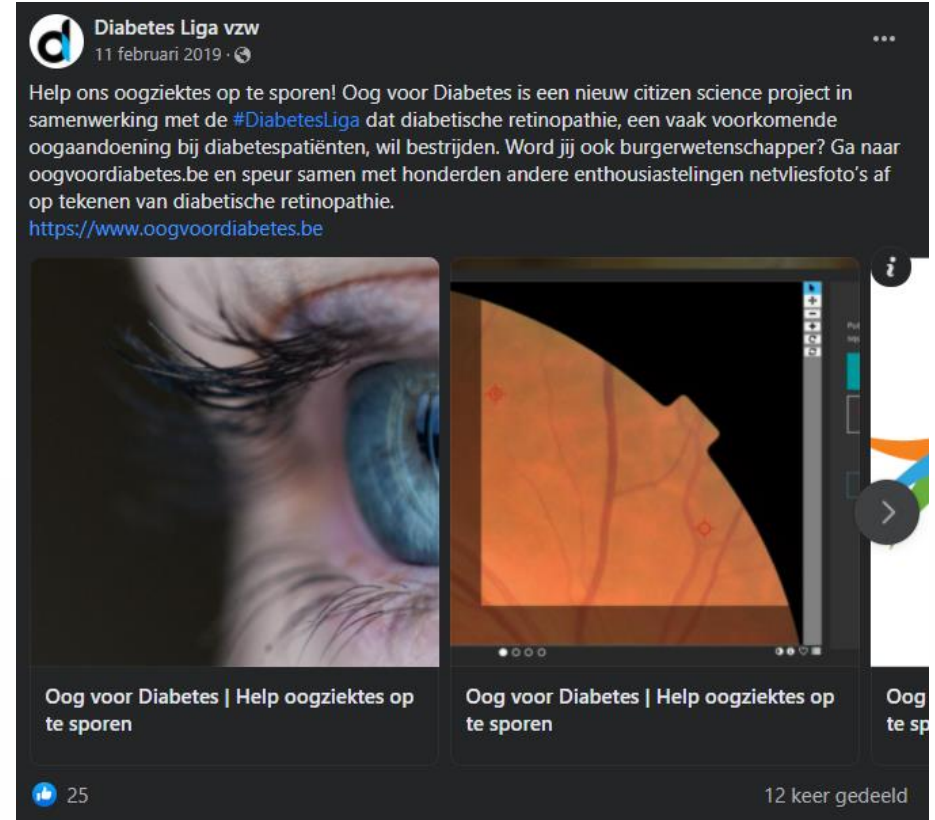
The image shows a person's hands using a vernier caliper to measure a small green plant stem. The person is wearing several colorful bracelets and a watch. A data collection sheet is visible, featuring a grid with handwritten notes in red ink. The sheet includes a magnifying glass icon with a beetle inside, and a butterfly illustration on the right side.

Gegevens plant	
Pasfoto	Maak foto's van de schade aan de plant
Soort schade	2690-5
Schadeschaal	MEDIC
Gegevens insect	
Pasfoto	Maak foto's van het insect
Soort	2690-5
Aantal	1

TOOLS & TACTICS

HITCH A RIDE ON EXISTING NETWORKS

To recruit citizen scientists the project works together with **Diabetes Liga**, an association for diabetes patients and their families and professional care providers. The league promotes the project on its website, social media and in its magazines. The members are naturally sympathetic towards the subject, which makes them an ideal target audience.



TOOLS & TACTICS

OFFER A FUN EXPERIENCE

- **DIY box:** participants borrow a box and take it with them to any location in Flanders or Brussels where invasive alien aquatic plants are present
 - For families, groups of friends, volunteers, ...
 - For schools, youth associations
- **Teaching materials**
 - Quiz
 - Role playing game / debate kit
 - Video and picture assignments



TOOLS & TACTICS

USE SOCIAL MEDIA

- Facebook? Twitter? TikTok? Instagram? LinkedIn?
- Make project account or not?
- Consider paid advertisements
- Use call to actions



Wtnschp

16 februari 2020 · 🌐

👁️ Waar zijn al die leerkrachten? Samen met de **Diabetes Liga vzw** en de **Lerarenopleiding VUB** maakten we een 'Oog voor Diabetes'-lespakket voor leerlingen van de tweede graad. Wat is diabetes? Wat is het verschil tussen type 1 en type 2? Wat zijn de symptomen? Laat je leerlingen op een speelse wijze kennismaken met diabetes! **VITO Imec - SMIT VUB** 👁️



OOG VOOR DIABETES

KLASCEMENT.NET

Oog voor Diabetes : Lespakket

1 op 12 volwassen Belgen heeft vandaag diabetes en het aandeel stijgt ...

Meer informatie



en **710 anderen**

19 opmerkingen

67 keer gedeeld

TOOLS & TACTICS

DIGITAL STORYTELLING

- Personal story
 - F.e. [interview](#), testimonial with citizen scientist
- Educational story
 - F.e. [infographic](#)
 - F.e. [project video](#)

Eye for Diabetes



Thanks to the citizen science project **Eye for Diabetes** we are able to develop a computer programme to recognize **damage to the retina** at an early stage.



But in order to do so, we need a lot of **analysed retinal pictures**.



1,000,000

Belgians suffer from diabetes or are at a strongly increased risk



35%

suffer from **diabetic retinopathy**: damage to the retina that can cause blindness



That's why diabetics should have their eyes checked regularly!

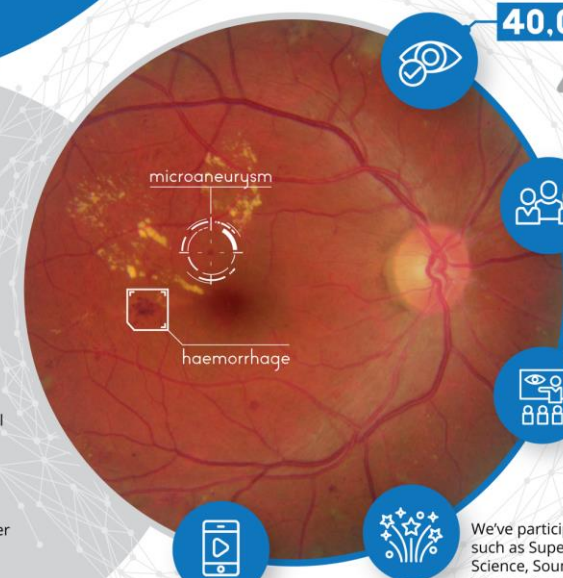


ANALYSING RETINAL PICTURES?

You can volunteer to analyse retinal pictures yourself on an online platform.

You will first learn how to recognize and identify different retinal lesions. Then you'll be able to assess new pictures yourself.

Your assessments will help us train a computer programme to better recognize damage to the retina in the future.



40,000

pictures have already been analysed



The more pictures are analysed, the smarter we can make the computer programme.



by **3,550** volunteers

one volunteer has analysed as many as **1,045** images!



We've put together a **lesson package** that has been used **200** times already.



We've appeared in the media (VRT, Knack, Het Laatste Nieuws,...). Check our partners' social media accounts for the latest news updates.



We've participated in events such as Supernova, I Love Science, Sound of Science, Science Day, Science Bar,...

NOW WHAT?

Visit our website to participate because we need your help! All analyses will be made available to scientific research. We really appreciate your contribution.

It will help us further improve our artificial intelligence software that will enable the early detection and follow-up of diabetic retinopathy in the future.

Do you want to start analysing pictures?
Visit eyeford diabetes.health



TOOLS & TACTICS

GAMIFICATION

Potential formats

- Ranking & points
- Race against the clock
- Group missions
 - Geographical location
 - Time limit



TOOLS & TACTICS

PROJECT AMBASSADORS

Picture of project
ambassador(s)

???



INVITED SPEAKERS

INTRODUCTION TO THE MAIN TOPICS FOR THE INTERACTIVE DISCUSSIONS

- **CIVEX: Bas Dikmans & Toon Vercauteren**
 - Discussion on challenges related to inclusion

- **SBO-TESTEREP: Pieterjan Deckers**
 - Discussion on challenges related to long-term participation and engagement

BREAKOUT ROOMS PART 1

15:45 – 16:10



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BREAK (5 MIN)



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BREAKOUT ROOMS PART 2

16:15 – 16:40



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FINAL WRAP-UP

- Summary of main results per padlet presented by Carina and Sven
- Any questions from the audience?
- Evaluation form
- Goodbye by Eline Livemont

THANK YOU !



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