

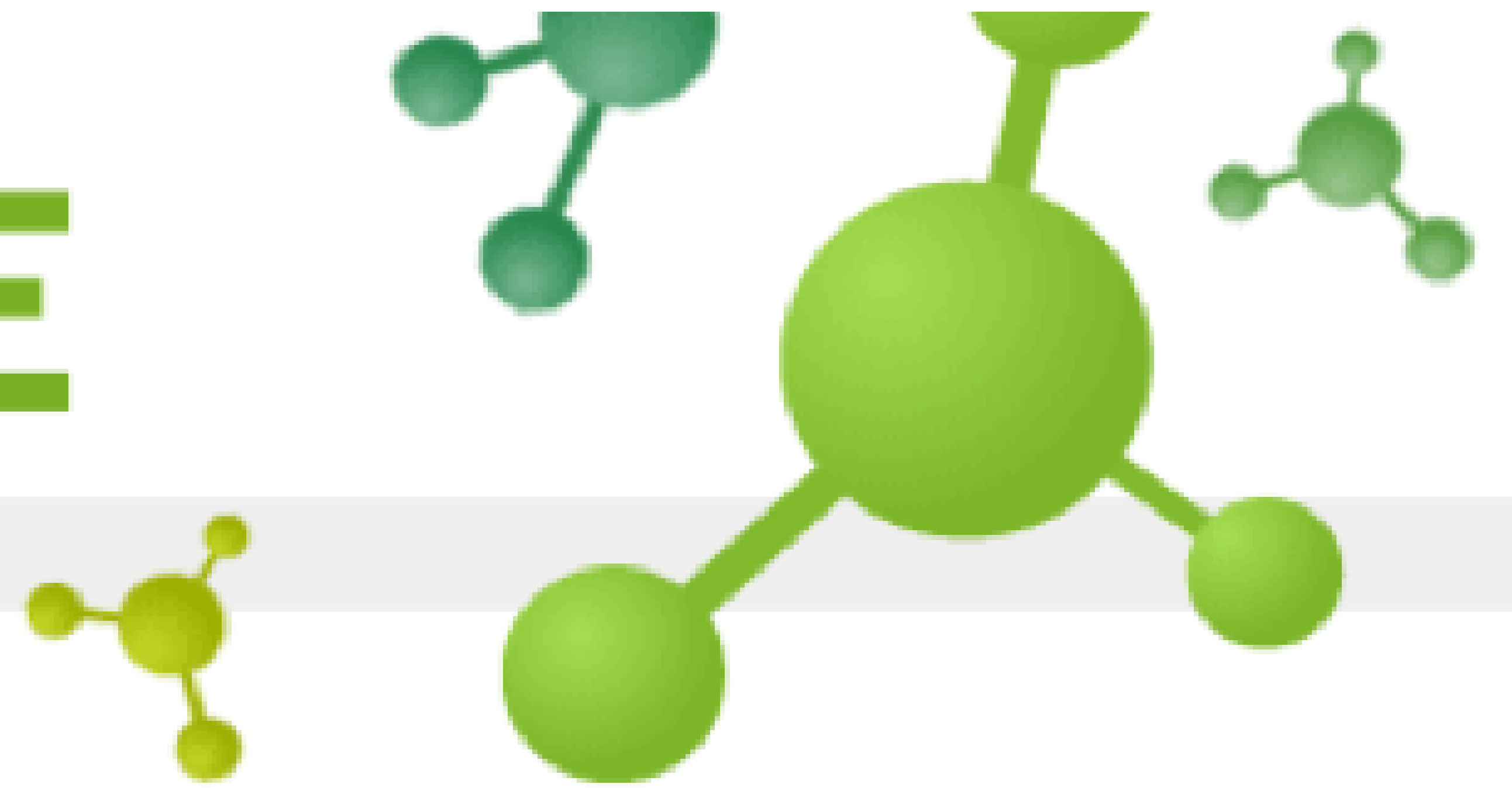
Will You Help Me With This? Motivating Volunteers to Participate in Citizen Science Projects

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Derek Hansen, Cynthia Parr, David Jacobs

HCIL Symposium, May 22, 2012

WIRED SCIENCE


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Plymouth State University

Research Questions

- 1 What are the major motivational factors **affecting** volunteers and scientists' engagement in citizen science projects?
- 2 What are the major motivational **barriers** to such collaboration?

Principles of social participation



Egoism



Altruism



Collectivism



Principalism

Methods

Participants		
Scientists	n = 62	(44%)
Volunteers	n = 80	(56%)
Experience		
Less than a year		
Scientists	n = 16	(25%)
Volunteers	n = 35	(44%)
More than a year		
Scientists	n = 46	(75%)
Volunteers	n = 45	(56%)
Gender		
Male		
Scientists	n = 38	(60%)
Volunteers	n = 46	(57%)
Female		
Scientists	n = 24	(40%)
Volunteers	n = 34	(43%)

N = 142

18 interviews



Magnusfrankkun @ Flickr

Survey

Motivational level - Likert scale

5
4
3
2
1
0

Altruism

Collectivism

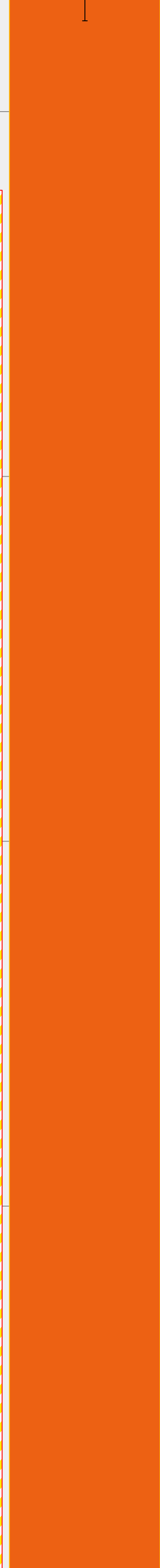
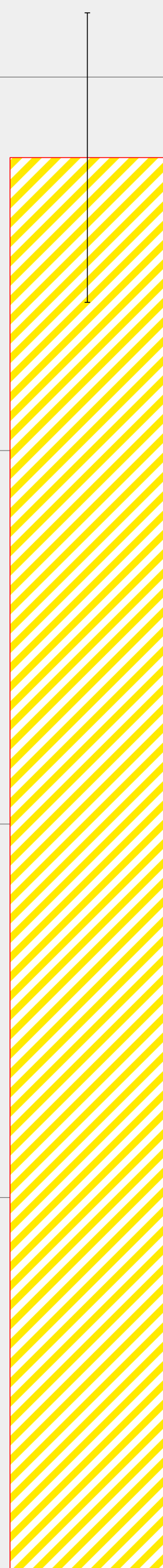
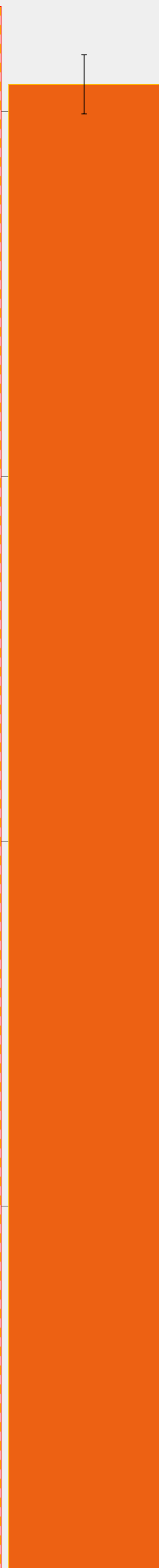
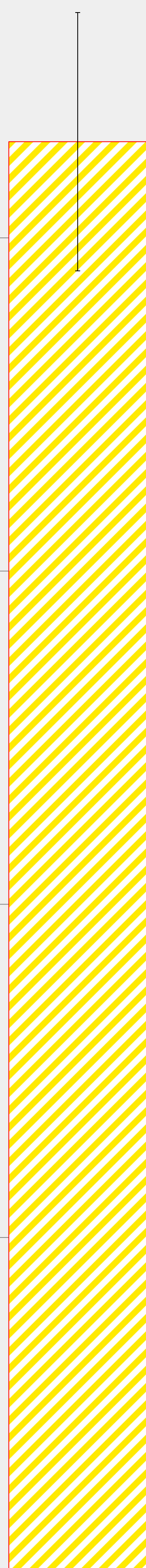
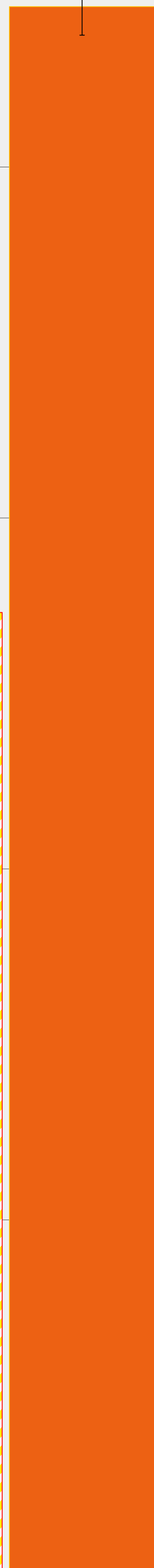
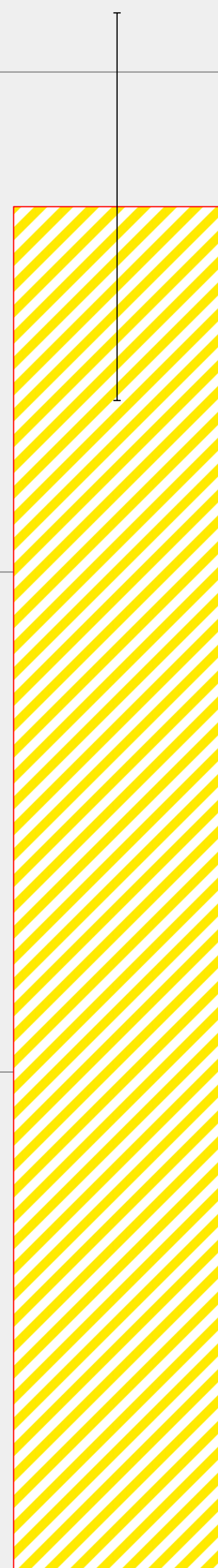
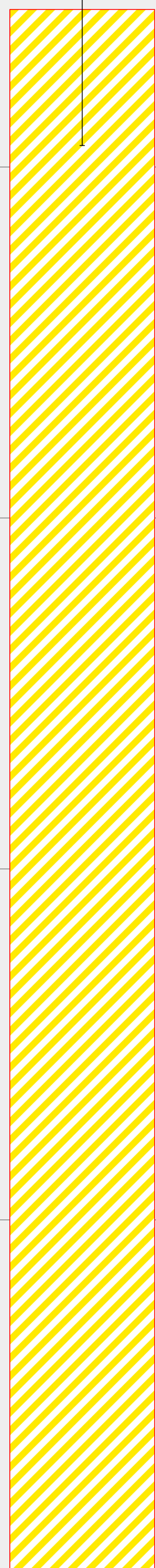
Principalism

Egoism

Motivational Factors

Scientists
Volunteers

N = 142



Data needs

“I see [volunteers] as most helpful in making accurate observations... they are basically the field component”

Education and outreach

“I don’t think people can make good decisions, be it policy or environmental or anything else, unless they understand how things work. This provides the opportunity to educate people through a valid citizen science program”

Primary motivation – personal interest

*“I think personal interest comes first.
Personal interest and personal gain”.*

*“I would be less inclined to participate in
something I had little interest in, even if it
was a worthy endeavor”*

Secondary motivations – recognition and attribution

“I’m not really, obviously, objected to glory. I do expect attribution... I would always like to be the first one to put a photo up there, it’s got to count somehow”

“It’s not about spending time or money. It’s more about the constant feedback to the volunteers that what we’re doing is useful and being used”

Secondary motivations – community involvement and advocacy

“It’s the combination of being an affective citizen scientist and seeing the community thrive... people really care about their natural resources here”

“It’s a perfect opportunity to help people understand their environment. I hope that something that you say will make a dent and make them more curious and they’ll go home and pick a book or they’ll call you back”

De-motivating factors

Volunteers

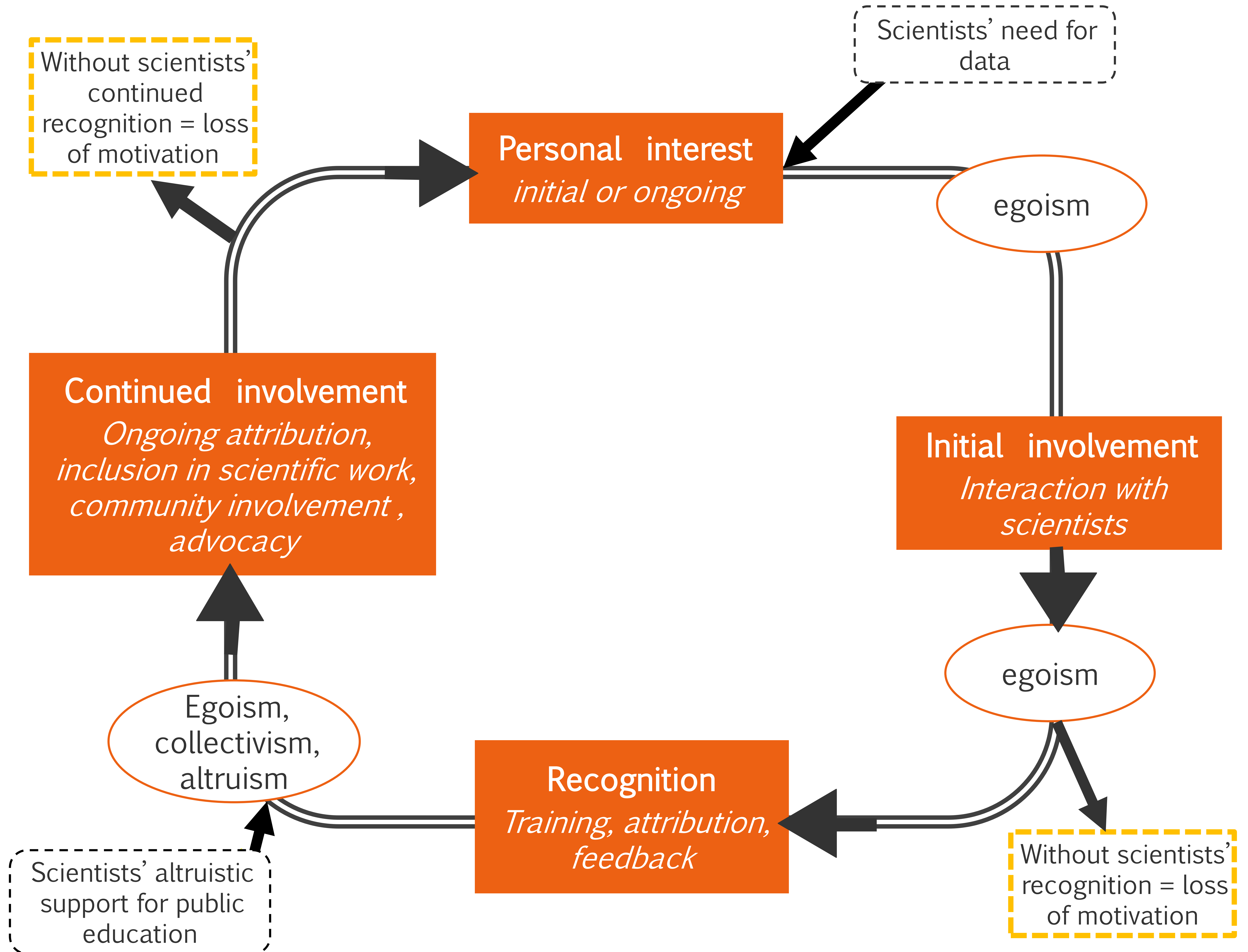
“Scientists are intimidating”
“Scientists speak a different jargon”

Scientists

“they may potentially contaminate the data”
“we need quality control!”

“people won’t come back if there isn’t a loop of credibility and trust and things that they can see that are being accomplished as a result of the data they are collecting”

Process model of scientists' and volunteers' collaboration



Design to support motivation

- ✓ **Timing is everything** (egoism)
- ✓ **Highlight data use and reuse** (Egoism)
- ✓ **Emphasize locality** (collectivism)
- ✓ **Break tasks to small, building blocks**
(Collectivism & altruism)
- ✓ **Support synergy** (Collectivism)
- ✓ **Match scientists, volunteers and tasks**
(Egoism, collectivism, altruism)

Timing is everything



Highlighting data use and reuse



Emphasize locality



Yarotman

Break tasks into smaller building blocks;
support synergy



Ksgr @ Flickr

Match scientists, volunteers and tasks



Jessi.bryan @ Flickr

- 1 Scientific projects are becoming collaborative efforts
- 2 To design successful tools we need to be familiar with the various populations that participate in scientific collaborative projects
- 3 Collaborative scientific project are continuous – motivations change throughout the projects. Design should accord these changes

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