

# Nanoscale Informal Science Education Network Public Impacts Summative Evaluation

## Background of the NISE Network

The Nanoscale Informal Science Education Network is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology (nano). Funded by the National Science Foundation through two consecutive grants totaling over \$40 million that extended over 10+ years, NISE Net is one of the largest informal science education initiatives ever undertaken in the United States.

## Background of this Summative Evaluation

Four studies were designed to look at the overall impact on the public of the NISE Network. They examined the public reach of the Network from 2005-2015<sup>1</sup>, the ways that the public engaged with the two most widely distributed products—the NanoDays kits<sup>2</sup>, and the *Nano* Exhibition<sup>3</sup>— and the ways that institutions offered Network products to the public.<sup>4</sup>

## NISE Network products were made available to many institutions.

The NISE Network created a wide range of educational products to engage the public in nano.



**1,654**  
**NanoDays**  
physical kits  
distributed  
from 2008–2015



**93**  
**Nano exhibition**  
copies hosted  
across 149 sites  
as of 2015



**Over 200**  
**Educational  
products**  
Available online  
at [nisenet.org](http://nisenet.org)  
as of 2015

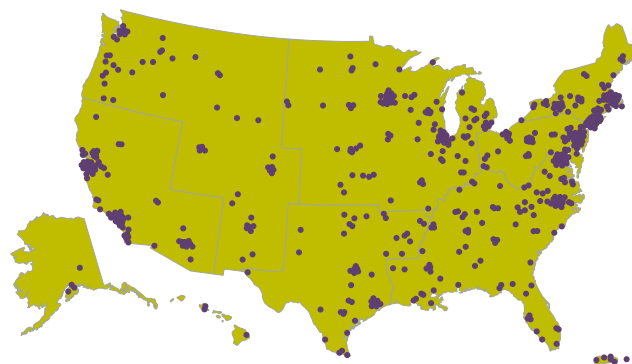
## The Network had a broad and expansive public reach.

NISE Net reached members of the public who visited different types of institutions, including natural history museums, science centers, children's museums, colleges and universities, libraries, and more. The project reached people beyond those who already had high levels of science interest.



Between 2005 and 2015 NISE Net has reached

**30 MILLION  
PEOPLE**



Institutions around the country where  
**NanoDays** and the *Nano* exhibition  
were available to the public.

1. Svarovsky, G., Goss, J., & Kollmann, E. K. (2015). *Public reach estimates for the NISE Network*. Notre Dame, IN: NISE Network.

2. Svarovsky, G., Tranby, Z., Cardiel, C., Auster, R., & Bequette, M. (2014). *Summative study of the NanoDays 2014 events*. Notre Dame, IN: NISE Network.

3. Svarovsky, G., Goss, J., Ostgaard, G., Reyes, N., Cahill, C., Auster, R., et al. (2013). *Summative study of the Nano mini-exhibition*. Saint Paul, MN: NISE Network.

4. Guberman, S., Milavetz, D., & LaPlant, E. (2016). *Summative study of the public impacts of nano-rich organizations*. St Paul, MN: NISE Network.

# NISE Network Public Impacts Summative Evaluation

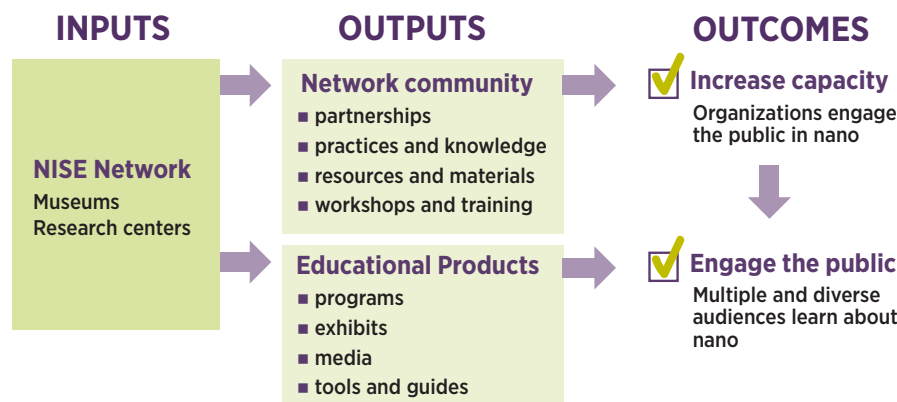
## How did the network achieve this reach?

NISE Network partners participated in large numbers from 2005-2015.



## The NISE Network supported public engagement through two paths.

The Network increased national capacity to engage the public in nano activities in two ways: directly, through its educational products, and indirectly, by encouraging and supporting informal science learning professionals around nano content and engagement practices.



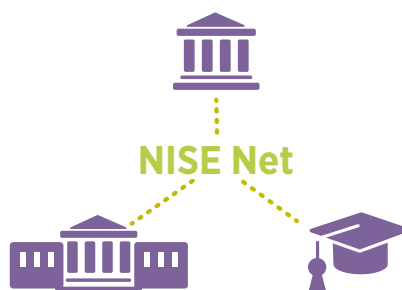
### Many options for engagement

At some partner institutions, members of the public had multiple options and opportunities to engage with NISE Net activities throughout the year.<sup>5</sup>



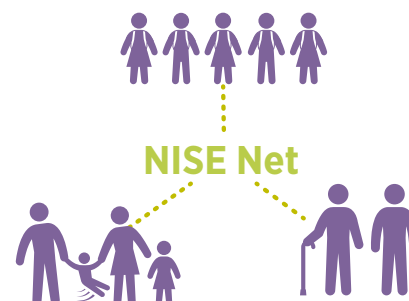
### Many types of institutions

Organizations that used Network products included large and small museums, science centers, children's museums, and universities.<sup>5</sup>



### Many different audiences

Staff and volunteers worked to engage families, young children, adult groups, school groups, and more.<sup>5</sup>



# NISE Network Public Impacts Summative Evaluation

## Nano Exhibition Public Impact

The *Nano* exhibition was one of the key products that helped achieve the public impact of the NISE Network.



**93** Exhibition copies hosted

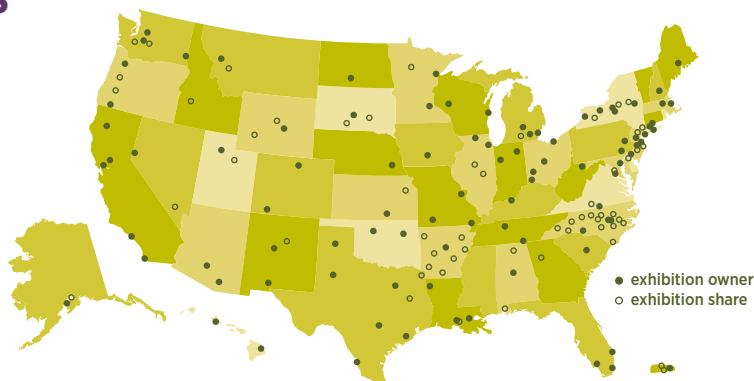
140 museums and 9 universities across the country from 2012–2015

**22** Million visitors

visited the *Nano* exhibition  
from 2012–2015

**The *Nano* exhibition**

is a modular and flexible 400 square-foot exhibit that introduces the public to nano concepts and applications.



Exhibition locations 2012–2015

## Learning Outcomes from the *Nano* Exhibition<sup>6</sup>



**Increase  
in confidence**

around talking  
about nano



**Finding  
connections**

between nano  
and their daily lives



**Increase  
in confidence**

around describing  
nano concepts



**4 min. average  
dwell time**

(4x the field-wide  
average for an  
exhibition of this size)

**95%**

of visitors reported high  
levels of **interest**

**96%**

of visitors reported high  
levels of **enjoyment**

**79%**

of visitors reported high  
levels of **interest for  
their children**

**87%**

of visitors reported high  
levels of **enjoyment  
for their children**

6. Svarovsky, G., Goss, J., Ostgaard, G., Reyes, N., Cahill, C., Auster, R., et al. (2013). *Summative study of the Nano mini-exhibition*. Saint Paul, MN: NISE Network.

# NISE Network Public Impacts Summative Evaluation

## NanoDays Public Impact

NanoDays kits and events also played an essential role in achieving the public impacts of the NISE Network.



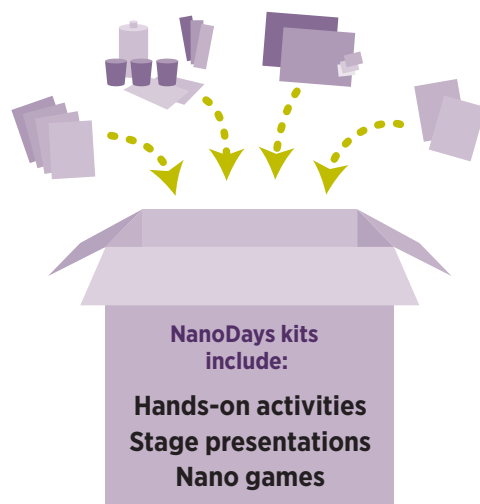
### 1,654 NanoDays kits distributed

To 468 institutions in all 50 states

### 7.2 Million people

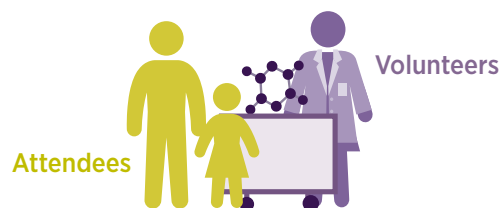
Reached by NanoDays  
from 2008–2015

**NanoDays** is a week-long national festival that mobilizes the informal science education community in engaging the public in nano activities and learning.



## Learning Outcomes from the NanoDays Kit<sup>7</sup>

Members of the public who attended NanoDays events at a range of representative partner organizations reported the following outcomes:



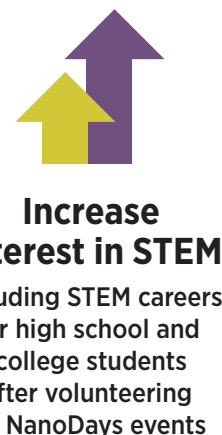
**Increase in confidence**  
around talking  
about nano



**Increase in finding connections**  
between nano  
and their daily lives



**Increase in confidence**  
around describing  
nano concepts



**Increase interest in STEM**  
including STEM careers  
for high school and  
college students  
after volunteering  
at NanoDays events

Members of the public who volunteered at NanoDays events reported higher increases than event attendees.

7. Svarovsky, G., Tranby, Z., Cardiel, C., Auster, R., & Bequette, M. (2014). *Summative study of the NanoDays 2014 events*. Notre Dame, IN: NISE Network.